

NEWS ON CARDIAC REHABILITATION IN 2018

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EUROASPIRE V: CARDIAC REHABILITATION AND SECONDARY PREVENTION PERFORMANCE INDICATORS ARE STILL LESS THAN OPTIMAL IN EUROPE

EUROASPIRE is a survey of secondary preventive care in patients 1 year after hospitalization for an acute coronary event or hospitalization for revascularization. The latest results of this survey, EUROASPIRE V, represent an audit of the implementation of the 2016 Joint European Society of Cardiology/European Atherosclerosis Society lipid guidelines.¹ Briefly, EUROASPIRE included findings from 8261 secondary prevention patients (mean age, 64 years; 26% female) who were enrolled by 131 centers across 27 countries.² The first findings were also compared with the previous studies. Results showed that performance indicators of secondary prevention are still less than optimal, similarly to previous EUROASPIRE surveys, and that the ESC guidelines regarding lifestyle changes could be implemented more effectively, particularly when it comes to promoting smoking cessation, physical activity participation, nutrition management, hypertension control, and lipid control.

In particular, only 46% of the European population are advised to follow a cardiac prevention or rehabilitation program, and the cardiac rehabilitation attendance (at least half of the session), if advised, is only 68%. Finally, attendance in cardiac rehabilitation programs among all patients is only 31%. In addition, other secondary prevention measures are poorly implemented (eg, lipid management across Europe). While the majority of patients (84%) were receiving lipid-lowering therapy (the majority statins), only about one-third of these patients (32%) attained the recommended LDL cholesterol goal of <1.8 mmol/L (<70 mg/dL); similarly, poor lipid goal attainment was reported for non-HDL cholesterol (32%). This poor goal attainment is likely to be due to poor uptake of high-intensity statin therapy; less than half (43%) of the patients were maintained on high-intensity statin therapy after discharge from the hospital.

The findings from EUROASPIRE V highlight the need for renewed efforts for implementing the guidelines to improve management in very high-risk patients in the secondary prevention setting in Europe.

NEW AMERICAN PERFORMANCE AND QUALITY MEASURES FOR CARDIAC REHABILITATION

The American College of Cardiology (ACC) and American Heart Association (AHA) have released a new set of performance and quality measures for cardiac rehabilitation published online on March 29th in the *Journal of the American College of Cardiology*.³ Similarly to our continent, also in the other part of the Atlantic, the 2017 AHA Heart Disease and Stroke Statistics report highlights the large number of patients who require cardiac rehabilitation each year, and are missing this valuable opportunity, including 625,000 patients discharged from US hospitals after acute coronary syndrome, 954,000 patients who underwent percutaneous coronary interventions, 500,000 patients discharged with a new diagnosis of heart failure, and 397,000 who underwent coronary artery bypass graft surgery. Yet, despite strong evidence demonstrating the benefits of cardiac rehabilitation, it remains “underutilized.” However, good data concerning cardiac rehabilitation participation rates and completion rates are still lacking.

The ACC/AHA Task Force on Performance Measures first issued cardiac rehabilitation performance measures in 2007 and published a focused update in 2010. The latest version includes six performance measures (two revised, four new) and adds three quality measures. The revised cardiac rehabilitation performance measures address referral from the inpatient (performance measure 1) and outpatient (performance measure 3) settings. Performance measure 1 on cardiac rehabilitation referral from an inpatient setting states that all patients hospitalized with a cardiac rehabilitation–eligible diagnosis or procedure should be referred to an outpatient cardiac rehabilitation program prior to discharge. Performance measure 3 on cardiac rehabilitation referral from an outpatient setting states that all outpatients who are eligible for cardiac rehabilitation and have not yet participated in cardiac rehabilitation should be referred to an outpatient cardiac rehabilitation program. For both, the task force notes that, if the patient declines cardiac rehabilitation referral, referral order and patient materials should not be sent to the receiving cardiac rehabilitation program against the patient’s wishes. Cardiac rehabilitation referral would still be met as long as other aspects of cardiac rehabilitation referral have been met (cardiac rehabilitation referral recommended and documented).

Noteworthy specific new recommendations have been developed to implement cardiac rehabilitation for patients with heart failure. In fact, new performance measures advise that patients with heart failure with reduced ejection fraction should be referred for cardiac rehabilitation and include measures to assess enrollment in cardiac rehabilitation. Referral to exercise training is advised for patients with heart failure from the inpatient setting (performance measure 2) and the outpatient setting (performance measure 4).

The first step in cardiac rehabilitation participation is cardiac rehabilitation enrollment; therefore, the performance measures address claims-based enrollment (performance measure 5a) and registry/electronic health record-based enrollment (performance measure 5b). The option to use claims-based data is included to allow flexibility in the assessment for health care organizations that may wish to use claims-based data, with or without the use of registry/electronic health record data. The same goes for organizations that may wish to use registry/electronic health record data as opposed to claims-based data.

The three cardiac rehabilitation quality measures deal with enrollment, adherence, and communication. The rationale is based on the evidence that patient outcomes and adherence are better the sooner the patients enter cardiac rehabilitation. Furthermore, the number of sessions patients attend correlate with better outcomes: a graded dose response in which attending 36 or more cardiac rehabilitation sessions is associated with lower risks for death and myocardial infarction at 4 years compared with attending fewer sessions. Quality measure 3 deals with cardiac rehabilitation communication between the cardiac rehabilitation program and the health care provider to ensure good coordination of care.

EUOPREVENT 2018: CARDIOVASCULAR REHABILITATION AT ITS HIGHEST LEVELS

The 2018 EuroPrevent congress, the official scientific meeting of the European Association of Preventive Cardiology, took place in Ljubljana (April 19-21, 2018) where several very interesting aspects of preventive cardiology and cardiac rehabilitation were highlighted, all supported by an evidence-based approach.

In cardiac rehabilitation, in particular, a regular sauna was shown to have positive effects on vascular physiology, morbidity, and mortality in patients with cardiac disease.⁴ However, alternating between heat exposure and cold water immersion should be avoided because it may trigger acute coronary syndromes and arrhythmias. Yoga was shown to improve left ventricular ejection fraction and inflammatory markers in cardiovascular diseases and heart failure, which, in addition to pharmacological therapy, has also shown beneficial effects in cardiac arrhythmia treatment.⁵

The latest information regarding the most important trials on e-Health in cardiac rehabilitation was presented, including the EU-Care Project, implemented with EU Horizon 2020 funds. The project, dedicated to elderly cardiac patients undergoing rehabilitation, aims to compare conventional cardiac rehabilitation programs to innovative mobile telemonitoring protocols.⁶ The SmartCare-CAD trial, has the objective of investigating the efficacy of cardiac telerehabilitation vs center-based cardiac rehabilitation.⁷ The EduHeart I trial aims to study the efficacy of combined conventional cardiac care with e-learning in cardiac rehabilitation.⁸ The REMOTE

cardiac rehabilitation trial, aimed at assessing the effects and noninferiority of mobile health technologies for the remote delivery of rehabilitation exercise programs, was also discussed.⁹

CARDIAC REHABILITATION AND OUTCOMES

Controversial data are available on the effect of outpatient cardiac rehabilitation on prognosis. The impact of ambulatory cardiac rehabilitation on cardiovascular outcomes was analyzed in a 5-year, follow-up study in the center-north of Italy involving 839 patients who attended the cardiac rehabilitation program planned at discharged vs 441 patients who were discharged without any program of cardiac rehabilitation. While no difference in mortality was observed, the composite outcome of hospitalizations for cardiovascular causes and cardiovascular mortality were lower in the cardiac rehabilitation group compared with the no cardiac rehabilitation group (18% vs 30%, $P<0.001$), which was driven by lower hospitalizations for cardiovascular causes (15 vs 27%, $P<0.001$). In a multivariable Cox proportional hazard analysis, a cardiac rehabilitation program was an independent predictor of a lower occurrence of the composite outcome (hazard ratio, 0.55; $P<0.001$), while, in the propensity-matched analysis, the cardiac rehabilitation group experienced lower total mortality (10% vs 19%; $P=0.002$) and cardiovascular mortality rates (9% vs 35%; $P=0.008$) compared with the no cardiac rehabilitation group.¹⁰

The PATIENT CARE registry in Germany demonstrated an improvement in LDL-C target achievement rates through cardiac rehabilitation for patients after ST-segment elevation or non-ST-segment elevation myocardial infarction.¹¹ A total of 1408 patients were analyzed who started cardiac rehabilitation on average 19 ± 10 days after the index event and lasted for 22 ± 4 days. At discharge, 96.7% of patients received statins and 13.0% received another lipid-lowering medication in addition to a statin. The rate of patients with LDL-C on target according to the European Society of Cardiology/European Atherosclerosis Society dyslipidemia guidelines (<70 mg/dL [1.8 mmol/L] or at least a 50% reduction in the baseline value) was increased from 21.4% at cardiac rehabilitation admission to 41.9% at discharge after cardiac rehabilitation. Most patients (95.2%) completed the cardiac rehabilitation and 88% returned to their former work full time.

A previous meta-analysis noted that, among the different components of cardiac rehabilitation, a key role was played by exercise training. This dogma has been challenged by the Toronto Health Economics and Technology Assessment (THETA) Collaborative research team, who undertook a systematic review and network meta-analysis of randomized controlled trials evaluating the role of the different core components of cardiac rehabilitation on clinical outcomes: nutritional counseling, risk factor modification, psychosocial management, patient education, and exercise training. Ultimately, 148 randomized controlled trials (50 965

participants) were included. The authors found that each component, individual or in combination, was associated with mortality and/or morbidity, and concluded that recommendations for comprehensive cardiac rehabilitation are warranted.¹²

VENTRICULAR ASSIST DEVICE

Exercise-based cardiac rehabilitation has also been proposed for heart failure patients with a ventricular assist device to help in the recovery of the patient's functional capacity. However, the existing evidence in support of exercise therapy in these patients remains limited. After a review of the current knowledge on the causes of the persistence in the limitation in exercise capacity in ventricular assist device recipients and concerning the benefit of exercise therapy in patients with a ventricular assist device, the Heart Failure Association of the European Society of Cardiology has developed a document to provide practical advice on implementing exercise training. This approach includes appropriate screening to avoid complications and then starting with early mobilization, then the prescription is individualized to meet the needs of each patient. Finally, gaps in the knowledge are discussed.¹³

NEW ITALIAN POSITION PAPER ON “MINIMAL CARE” INTERVENTIONS OF THE NURSE, PHYSIOTHERAPIST, DIETICIAN, AND PSYCHOLOGIST IN CARDIOVASCULAR REHABILITATION

In cardiac rehabilitation, different professionals in coordination, each with their own specific competence, carry out care activities. A new Italian position paper analyzed the role and the specific interventions performed by the nurse, physiotherapist, dietician, and psychologist in order to identify what constitutes minimal care, ie, the main activities of each team member in the cardiac rehabilitation implementation, in clinical factors. The following factors were considered: the level of clinical care complexity (determined both by the disease and by comorbidity factors), the “area” complexity (ie, the specific level of competence required by each professional), the setting (ie, whether the care is performed in an inpatient or outpatient setting), and the duration of the rehabilitation intervention.¹⁴ ■

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