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EDITORIAL COMMENT

Access to exercise-based rehabilitation across Europe for patients with heart failure: where evidence-based practice is hampered by lacking resources

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This article refers to 'Regional differences in exercise training implementation in heart failure: findings from the Exercise Training in Heart Failure (ExTraHF) survey' by M.F. Piepoli *et al.*, published in this issue on pages 1142–1148.

Be ready for a further increase in number of heart failure patients

In Western countries, people are ageing and the prevalence of hypertension, obesity and diabetes keeps on increasing, next to greater chances for surviving an acute myocardial infarction by coronary revascularisation. This elicits 'the perfect storm' for a rise in the prevalence and incidence of heart failure (HF) in the near future. Indeed, future forecasts predict that the amount of people with HF will increase by 25% (from 2010 up to 2030).[1] This corresponds to a staggering increase in health economic costs: by 80% for indirect costs (e.g. productivity loss) and by 215% for direct costs (e.g. medical expenditure).[1] As a result, even though drug therapy and device implantation for the treatment of HF have improved considerably, Europe should be well prepared to deal with this imminent burden to national healthcare systems.

Every heart failure patient should be able to participate in an exercise-based rehabilitation programme

It is well-established that optimal endurance exercise capacity and muscle strength are instrumental to prolonged independence and mobility, and hence life expectancy, but also a lowered healthcare expenditure, in particular in chronically ill individuals. Indeed, exercise-based rehabilitation significantly ($P < 0.05$) lowers all-cause mortality in HF patients on the long term (>12 month follow-up) [relative risk (RR) 0.88], reduces overall hospital admissions in the short term (≤12 month follow-up) (RR 0.70), and reduces HF-specific hospitalisations (RR 0.59).[2] Next to these effects, exercise-based cardiac rehabilitation leads to significant improvements in physical fitness and quality of life in HF patients.[3] The most impressive evidence in favour of rehabilitation in HF was delivered by Belardinelli and colleagues.[4] After 10 years of uninterrupted exercise-based rehabilitation, a significantly lower hospital readmission rate [hazard ratio (HR) 0.64, $P < 0.001$] and cardiac mortality (HR 0.68, $P < 0.001$) were observed, next to the preservation of left ventricular ejection fraction (which decreased significantly in the usual care group).[4] Improvements in physical fitness were most importantly related to these positive outcomes.[4] Therefore, next to drug therapy, optimised nutrition, psychosocial support and/or device implantation, every patient with HF should get access to exercise-based rehabilitation to receive the best possible treatment and care.

Reality check in Europe

The reality, though, is very different. In this issue of the Journal, Piepoli and colleagues reveal that access to exercise-based rehabilitation for HF patients is far from optimal across Europe.[5] The authors surveyed the implementation of exercise-based rehabilitation in HF patients across 52 Northern, 48 Southern, 34 Western, 24 Eastern European, and 14 extra-European centres (covering 78 514 HF patients in total). Overall, nearly 40% of the centres

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reported a lack of exercise-based rehabilitation for HF patients: it was not available in 36% of the centres in Northern area, 41% in the Southern, 23% in the Western, 50% in the Eastern, and 64% in the extra-European region. It thus seems that across Europe only around 60% of HF patients can get access to exercise-based rehabilitation. Considering that not all HF patients are motivated to participate in such programmes when invited, the actual participation rates of HF patients in exercise-based rehabilitation are far lower.[6] These patients are thus clearly at elevated risk for premature death and frequent hospitalisations, next to physical deconditioning and decrements in quality of life. Such outcomes would be troubling to society, the patients as well as their relatives. This seems to be particularly the case in Southern and Eastern Europe.

The main reasons for not implementing exercise-based rehabilitation in the treatment of HF seem to be of administrative and economic nature (lack of equipment, health professional participation, mention in national and local guidelines, economic support). Only 6% of the centres do not implement exercise-based cardiac rehabilitation for HF patients because of the belief of a lack of clinical effectiveness. As a result, clinicians are well aware that exercise-based rehabilitation is safe and effective in HF and should thus be offered to all, but is unrealisable in clinical practice because of logistic reasons.

Even when exercise training is initiated in patients with HF, endurance exercise intensities varied considerably across the centres. More importantly and troublesome, however, peripheral muscle and inspiratory muscle training is executed in the minority of centres (in 12–53% and 17–33% of the centres, respectively). The latter is in clear contrast to what is advocated in current clinical guidelines for HF rehabilitation.[7,8]

What should be the next steps?

The study from Piepoli and colleagues indicates that Europe is situated in a highly unfavourable situation concerning the current treatment and care of patients with HF.

To remediate current exercise prescriptions (e.g. more application of peripheral muscle and inspiratory muscle strength training), guidelines should be brought to clinicians to maximise implementation, which is actually being aimed at by the European Society of Cardiology, and how to prescribe exercise is now made easier by offering digital decision-support systems.[9]

In addition, the access to exercise-based rehabilitation should be maximised. Unfortunately, the latter cannot be remediated by clinicians or healthcare professionals only. Actually, it is up to the policy makers to reserve budgets for exercise-based cardiac rehabilitation to overcome this limitation. The World Health Organisation indeed states that 'Rehabilitation is essential, along with prevention, promotion, treatment and support, in addressing the full scope of health needs of a population and achieving Sustainable Development Goal 3: Ensure healthy lives and promote well-being for all at all ages.' and that 'Rehabilitation must be integrated into national health plans and budgets. Current epidemiological trends, demographic shifts and expanded access to healthcare make scaling up rehabilitation services imperative for health systems in the 21st century'.[10] Such resolution cannot be ignored. Clinicians, scientists and policy makers share a common responsibility: to offer the best possible healthcare to HF patients. Since clinicians do all the efforts they can to provide the service, and scientists deliver more and more convincing evidence and relevant insights, political will has thus now become fundamental to the successful implementation of exercise-based rehabilitation for HF patients. After all, investments in exercise-based rehabilitation facilities across European countries for HF patients can be defended on economic grounds as well: long-term exercise-based rehabilitation (for 14 months) in patients with stable HF is cost-effective and prolongs survival by an additional 1.82 years at a low cost of $1773 per/life-year saved.[11]

Conclusion

The current treatment and care of patients with HF across Europe deserves a significant upgrade by maximising access to exercise-based cardiac rehabilitation, mainly by offering the logistic and financial opportunities to healthcare professionals and patients.

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