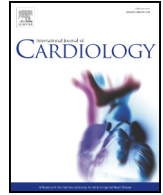




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Editorial

Cardiac rehabilitation in real life

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In 2001 Jolliffe and colleagues [1] published the first systematic Cochrane review of cardiac rehabilitation including 32 randomised trials with post-myocardial infarction and revascularization patients and concluded that there was a mortality benefit from exercise-based cardiac rehabilitation compared to control. Since then, additional trials have explored cardiac rehabilitation resulting now in a convincing evidence base [2]. Cardiac rehabilitation is recommended by international guidelines as a class IA recommendation for patients with ischemic heart disease and heart failure [3,4].

Cochrane systematic reviews are considered gold standard level evidence for intervention effectiveness and are on the very top of the evidence pyramid. Following a comprehensive review of existing literature, Cochrane reviews typically seek to include randomised trials where an intervention has been tested. Using rigorous methods the reviews explore the effect of the intervention on pre-defined outcomes [5]. We rely on the evidence from Cochrane reviews and implement the results in international and national guidelines. Clinicians build their practice and advise patients in accordance to the international or national guidelines throughout the western world. To date, these results come from trials, but what are the results of cardiac rehabilitation in a “real life” setting? To gain that knowledge would add another in-depth understanding of cardiac rehabilitation since data from trials are often not representative of “real life”!

The National Audit of Cardiac Rehabilitation (NACR) in the UK collects “real life” data from over 226 rehabilitation programmes and includes data from patients with a diagnosis of myocardial infarction, heart failure, and angina; and following coronary artery bypass grafting (CABG), percutaneous coronary intervention (PCI) and pacemaker implantation.

The study by Harrison and Doherty published in this journal presents “real life” data from 120,927 patients and investigates whether there is an association between mode of cardiac rehabilitation programmes and anxiety, depression and self-reported health post rehabilitation. Mode of delivery included group-based, home-based or web-based cardiac

rehabilitation and either supervised (with staff present) or self-delivered (with contact but no staff required for the exercise component).

In spite of guideline recommendation, we know that cardiac rehabilitation uptake is low and we currently know little about alternative settings or models of rehabilitation delivery. Could alternative delivery modes have the same positive effect on patients as the traditionally supervised cardiac rehabilitation programmes? The study by Harrison and Doherty sheds some important light on this question.

Data was collected from 1st April 2012 to 31st March 2016 from the NACR. Inclusion was based on patients with a valid diagnosis/treatment, who started cardiac rehabilitation and a rehabilitation location was registered. In total 34,305 patients provided pre and post questionnaire information about anxiety, depression and self-reported health.

They found that there was no association between mode of delivery of cardiac rehabilitation and anxiety, depression and self-reported health outcomes following cardiac rehabilitation. Their findings suggest that patients experienced the same overall mental health regardless of whether they have participated in a supervised or a self-delivered rehabilitation programme.

In line with studies investigating the effect of rehabilitation settings, Harrison and Doherty find that patients have the same positive effects regardless of rehabilitation setting [6]. This supports the belief that we can transfer the knowledge we had from clinical trials into the “real world”.

However, one major limitation of the study is the low number of answered questionnaires about anxiety, depression and self-reported health. Only 28% of the patients in the study had pre and post results. This unfortunately does not give us the full picture of the patients included in the study and we have to bear that in mind when we interpret the results.

A challenge in cardiac rehabilitation is low uptake. According to the NACR 50% of patients accessed CR in 2016 and this number has been increasing over the last years [7].

The authors find that older, female, and employed patients preferred self-delivered cardiac rehabilitation programmes and gained the same positive effects compared to supervised rehabilitation. This knowledge opens up for alternative ways of planning rehabilitation programs in the future. Today, only around 40% of rehabilitation centres in the UK offer self-delivered programmes. Offering that service in more rehabilitation centres could mean that we may increase the uptake of older, female and employed patients. According to the NACR 50% of patients eligible for cardiac rehabilitation participated in a programme in 2016 [7], a pattern that is observed in many other countries as well. There is a need to re-think and plan cardiac rehabilitation programmes. Firstly, patients with other conditions than ischemic heart disease and heart failure need to be researched. Patients with conditions like atrial

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fibrillation [8], who have had an ICD implanted [9] or patients who have had heart valve surgery [10] may benefit from cardiac rehabilitation and more research in those areas are called for by health professionals and most importantly by patients. Also, research is lacking in different populations like patients with low economic status, patients who have an alternative perception of their condition, or patients with different ethnical backgrounds. These are the patients that clinicians see again and again, and strict risk factor management in these groups could eliminate rehospitalisation and adverse events; however, patients do not understand why attending rehabilitation would benefit them. We have traditionally offered centre-based group cardiac rehabilitation, but maybe it is time to move away from “one size fits all” and think of alternative ways of planning and organising rehabilitation. Cardiac rehabilitation could be individualised and organised in accordance with the patient's everyday life, possibilities and wishes, and for some patients it could include new technologies like mobile phone apps and devices. In “real life” we often see patients suffering from multiple conditions plus having to juggle everyday life. Finding solutions to those rehabilitation challenges needs to be first addressed in trials and then integrated and observed using high quality “real life” data sets such as this observational study by Harrison and Doherty.

Conflict of interest

The author reports no relationships that could be construed as a conflict of interest.

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