

Cardiac rehabilitation effectively reduces the number of deaths in the heart failure population (propensity score matched analysis)

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Background: Numerous cardiac rehabilitation (CR) studies have demonstrated functional benefits, improvement in quality of life and clinical outcomes from exercise training in patients with heart failure (HF), so CR is consistently recommend for HF patients. However its influence on survival in HF population is unknown.

Purpose: To assess the influence of CR on survival rate in HF patients.

Methods: It is a retrospective analysis of 1 620 686 HF patients in Poland in years 2013–2018, based on nationwide Polish Ministry of Health registry, that provides public universal healthcare coverage to all residents and collects detailed information for the entire Polish population (38,495,659 in 2013) since 2009. Within registry, we identified the experimental group of 11 512 HF patients ≥ 18 years old who underwent CR in 2013–2018.

From entire HF population we identified a 1:1 propensity score matched cohort of HF patients, who did not get CR.

Results: After propensity-score matching, we identified 11,512 patient pairs who underwent/not CR. Average age was approximately 66 years (18–39: 2.1 vs 2.0%; 40–49: 4.91 – 4.3 vs 4.2%; 50–59: 17.0 vs 17.1%; 60–69: 34.9 vs 35.2%; 70–79: 31.3 vs 31.4%; 80+: 10.4 vs 10.3% respectively), 61% of the participants were males, mainly urban residence nearly 70%, with HF diagnose put during hospitalization 74.5%. Both groups were similar also by comorbidities evaluated by Charlson Comorbidity Index. Patients subjected to CR compared CR negative significantly increased survival risk at 1st, 2nd, 3rd, 4th and 5th year (CR vs CR negative 97.4% vs. 84.9%; 93.9% vs. 77.9%; 89.9% vs. 71.9%; 85.2% vs 66.0%; 81.8% vs 62.1% respectively) – Figure 1.

Conclusion: Our analysis showed that in heart failure patients, CR was associated with an increased survival rate among HF patients as treated in routine health care system.

