

Mortality and Readmission Outcomes for Intensive and Conventional Cardiac Rehabilitation

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Background: Cardiac rehabilitation, a cornerstone of cardiovascular disease (CVD) management, offers two approaches: Conventional Cardiac Rehabilitation (CCR)—a multidisciplinary intervention centered around exercise, and Intensive Cardiac Rehabilitation (ICR). ICR provides a more comprehensive approach focusing on dietary modifications including a whole-food, plant-based diet, and wellness counseling. There is limited data in the current literature comparing Major Adverse Cardiac Events (MACE) between patients undergoing ICR or CCR, which we aim to investigate.

Methods: We conducted a retrospective cohort study to compare a primary composite MACE outcome at 730 days (2 years) for patients who participated in ICR, CCR, and eligible patients who did not engage in cardiac rehab. The composite outcome included 2-year mortality, PCI, MI, stroke, CABG, and unstable angina requiring hospitalization. Secondary outcome measures included composite cost of readmissions, number of readmissions, composite cost of MACE and frequency of MACE components. We included patients who attended at least 5 CCR or 10 ICR sessions from 2016-2019.

Results: Out of 5832 patients in the timeframe observed, 3445 did not participate in any cardiac rehab. Of the remaining 2104 included in our statistical analysis, 963 were in the CCR group and 1141 in the ICR group. We found no significant difference in MACE outcomes using a chi-squared test; 89% of ICR and 90% of CCR experienced zero MACE outcomes ($P=0.566$). Observed deaths were not significantly different, with 3% in both the ICR and CCR groups ($P=0.587$). However, the data showed that readmissions were 5% more common in the ICR group compared to CCR (34% vs 29%, $P=0.006$).

Conclusions: Our study did not provide definitive evidence demonstrating the benefits of ICR over CCR for the composite MACE outcome, as no difference was observed. Study limitations include its retrospective nature, and reliance on observational data, which precluded randomization of baseline patient characteristics. In conclusion, despite more extensive sessions and content involving dietary strategies and wellness counseling, there is currently no definitive evidence favoring ICR over CCR.