

Is There an Association Between Attending Cardiac Rehabilitation Program and Health-related Quality of Life Among Patients in Qatar?

Eman Faisal¹, MPH, Mohammed Al-Hashemi², MD, Theodoros Papasavvas², PhD, Karam Turk-Adawi¹, PhD

¹ Department of Public Health, College of Health Sciences, Qatar University.

² Heart Hospital, Hamad Medical Corporation.

INTRODUCTION

- Cardiovascular Disease (CVD) is the leading cause of death globally (1). It is also the number one killer in Qatar.
- More patients with CVD are living than before due to medical advancement and high technology. Therefore, there is an urging need for secondary prevention strategies.
- Cardiac rehabilitation (CR) is a secondary prevention model of care for management of CVD. Participation in CR programs is effective in improving health-related quality of life (HRQOL), reducing cardiovascular mortality, morbidity, and hospital readmissions (2) (3) (4) (5).

KEY WORDS

Cardiac Rehabilitation, Health Related Quality of Life, cardiovascular, sessions attended.



OBJECTIVES

The aim of this study was to explore the association between attending CR program and health-related quality of life among patients in Qatar.

METHODOLOGY

- **Design:** observational retrospective cohort study.
- **Sample:** all patients who were referred to CR program in Qatar from (January 2013-October 2017).
- **Source of data:** secondary data were extracted from patients' records at patient entry and at patient discharge from the program (post-CR).
- **Instrument:** SF-36 survey was used to assess health-related quality of life among patients pre and post CR.
- **Measures:**
 - **Predictor:** attending at least the median number of CR sessions (≥ 23 sessions).
 - **Outcome:** change in HRQOL scores in each of the four scales: physical functioning, social functioning, emotional well-being, and general health.
- **Statistical analysis:**
 - Descriptive statistics to describe patients demographics and clinical measures.
 - A multiple linear regression analysis was used to explore an association between attending at least the median number of CR sessions and change in the scores of each of the four HRQOL, while adjusting for other covariates.

RESULTS

- The study consisted of 433 patients, the majority of patients were males ($n=396$, 91.4%), their mean age was 52.7 ± 9.8 years (mean \pm SD). Of the patients, 112 (25.8%) were at high risk for cardiac events during exercise, and 67 (15.4%) had depression.
- There was a statistically significant association between attending at least the median number of CR sessions and change in physical functioning scores (95% CI=8.85-29.11/ p-value=0.002), change in social functioning scores (95% CI=0.04-19.38/ p-value=0.04), change in emotional well-being scores (95% CI= 1.92-22.13/ p-value=0.02), and change in general health scores (95% CI=0.38-16.42/ p-value=0.03), as compared to attending less than the median number of sessions.
- The model adjusted for age, gender, risk level, diabetes, hypertension, musculoskeletal disorders, depression, and baseline HRQOL scores.

Figure 1: Mean change in physical functioning scores by attending at least the median number of CR sessions:

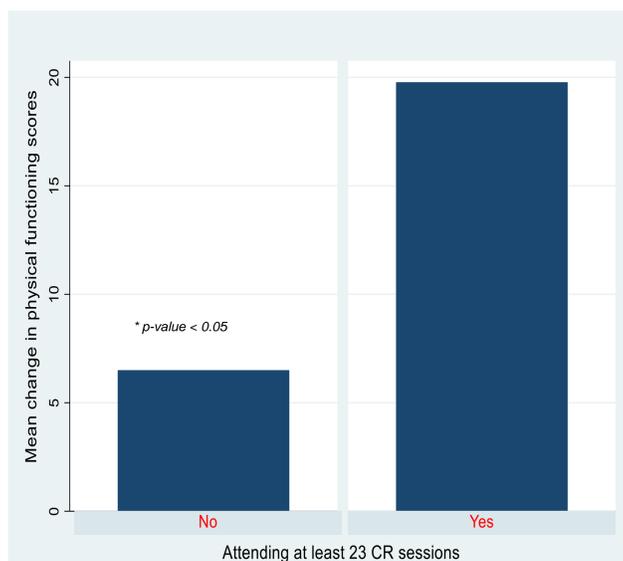


Figure 2: Mean change in social functioning scores by attending at least the median number of CR sessions

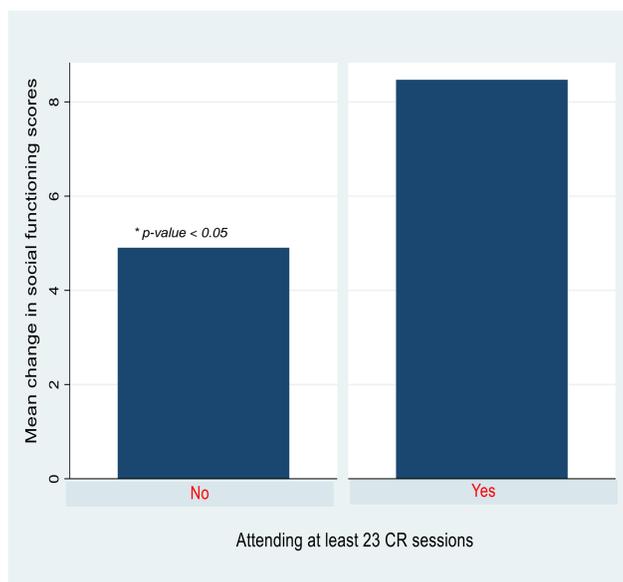


Figure 3: Mean change in emotional well-being scores by attending at least the median number of CR sessions:

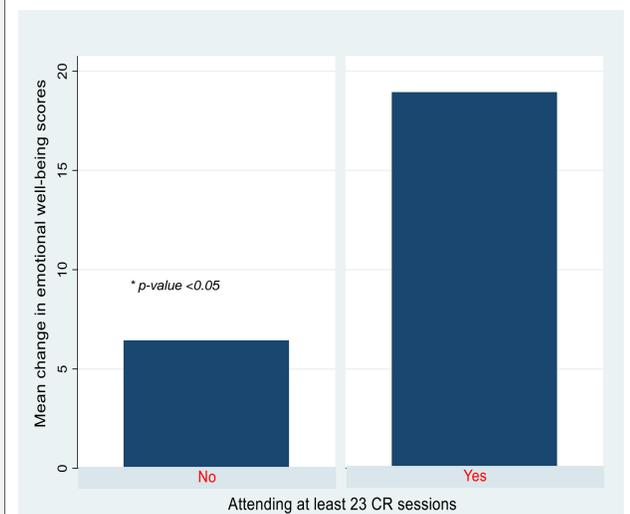
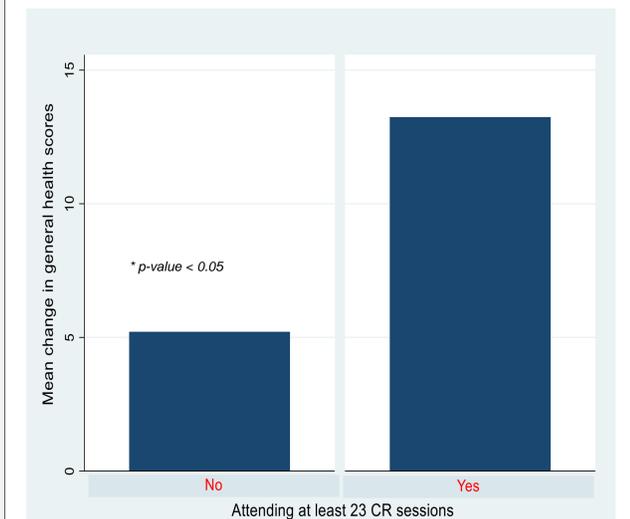


Figure 4: Mean change in general health scores by attending at least the median number of CR sessions:



CONCLUSION

- Patients who attended ≥ 23 CR sessions improved the four scales of HRQOL, i.e. physical function, social functioning, emotional well-being, and general health.
- These findings could encourage decision makers to support the program so larger number of cardiac patients can get the benefit of these programs.

REFERENCES

1. World Health Organization. World Health Day 2017 World Health Organization 2017 [Available from: http://www.who.int/cardiovascular_diseases/world-heart-day-2017/en/].
2. Lawler PR, Filion KB, Eisenberg MJ. Efficacy of exercise-based cardiac rehabilitation post-myocardial infarction: a systematic review and meta-analysis of randomized controlled trials. American heart journal. 2011 Oct;162(4):571-84. e2. PubMed PMID: 21982647. Epub 2011/10/11. eng.
3. Anderson L, Oldridge N, Thompson DR, Zwisler AD, Rees K, Martin N, et al. Exercise-Based Cardiac Rehabilitation for Coronary Heart Disease: Cochrane Systematic Review and Meta-Analysis. J Am Coll Cardiol. 2016 Jan 5;67(1):1-12. PubMed PMID: 26764059. Epub 2016/01/15. eng.
4. Francis T, Kabboul N, Rac V, Mitsakakis N, Pechlivanoglou P, Bielecki J, et al. The Effect of Cardiac Rehabilitation on Health Related Quality of Life in Patients with Coronary Artery Disease: A Meta-Analysis. Canadian Journal of Cardiology. 2018 2018/11/24/.
5. Saeidi M, Mostafavi S, Heidari H, Masoudi S. Effects of a comprehensive cardiac rehabilitation program on quality of life in patients with coronary artery disease. ARYA atherosclerosis. 2013;9(3):179-85. PubMed PMID: 23766774.