

CARDIAC REHABILITATION; AN ESSENTIAL COMPONENT OF CARDIOVASCULAR DISEASE MANAGEMENT

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ABSTRACT

Cardiovascular disease (CVD) is a significant global health issue and remains a leading cause of mortality worldwide. According to the World Health Organization (WHO), CVD is responsible for approximately 17.9 million deaths annually, accounting for 31% of all global deaths¹. However, the good news is that many CVD risk factors are modifiable, and lifestyle interventions can significantly reduce the incidence and progression of CVD. Cardiac rehabilitation (CR) is a comprehensive program that includes exercise, education, and behavioral interventions to help individuals with CVD recover and improve their quality of life.

CR has been shown to improve functional capacity, reduce symptoms, decrease hospitalizations, and increase survival rates in patients with CVD²⁻³. Exercise training is a key component of CR and has been shown to improve cardiovascular fitness, decrease blood pressure, and reduce insulin resistance⁴. In addition, education and counseling regarding medication adherence, smoking cessation, and nutrition can help patients better manage their disease and improve their overall health⁵.

Despite the proven benefits of CR, participation rates remain low. Many patients are not referred to CR by their healthcare providers, and those who are referred may face barriers such as lack of transportation, cost, or lack of social support⁶. In addition, there is a shortage of trained professionals to deliver CR programs, particularly in rural or underserved areas⁷.

To address these issues, healthcare providers should prioritize CR as an essential component of CVD management and ensure that all eligible patients are referred to CR programs. Public health campaigns and education initiatives can also help increase awareness of the benefits of CR among patients and healthcare providers⁸. Finally, policymakers should allocate resources to improve access to CR, particularly in underserved areas, and promote reimbursement for CR services⁹.

One of the challenges in promoting CR is the perception that it is primarily for older individuals who have already had a cardiac event. However, CR is beneficial for a much wider range of patients, including those with heart failure, peripheral arterial disease, and those who have undergone cardiac surgery or percutaneous coronary intervention¹⁰. Additionally, CR can help prevent future cardiac events in individuals who are at high risk due to their family history, lifestyle choices, or other factors.

Another challenge is ensuring that CR programs are tailored to the needs of individual patients. CR programs should take into account a patient's medical history, age, fitness level, and personal preferences. In addition, CR programs should be culturally sensitive and tailored to meet the needs of diverse populations. This can include providing materials in multiple languages, incorporating cultural preferences into dietary recommendations, and ensuring that CR programs are accessible to individuals with disabilities or other special needs.

Finally, technology can play a critical role in expanding access to CR. Telemedicine and mobile health applications can allow patients to participate in CR programs from home or remote locations. These technologies can also facilitate communication between patients and healthcare providers, improve medication adherence, and provide patients with real-time feedback on their progress¹¹.

In conclusion, CR is an essential component of CVD management and can significantly improve outcomes for patients with CVD. Healthcare providers, policymakers, and patients should work together to ensure that CR is widely available and accessible to all those who need it. By doing so, we can reduce the burden of CVD and improve the overall health and well-being of our communities.

KEYWORDS: Cardiac rehabilitation, cardiovascular disease, lifestyle modification.

References:

1. "Cardiovascular Diseases." World Health Organization, World Health Organization, https://www.who.int/health-topics/cardiovascular-diseases#tab=tab_1.
2. Anderson L, Oldridge N, Thompson DR, Zwisler AD, Rees K, Martin N, Taylor RS. 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. doi: 10.1016/j.jacc.2015.10.044. PMID: 26764059.
3. Taylor RS, Brown A, Ebrahim S, Jolliffe J, Noorani H, Rees K, Skidmore B, Stone JA, Thompson DR, Oldridge N. Exercise-based rehabilitation for patients with coronary heart disease: systematic review and meta-analysis of randomized controlled trials. *Am J Med*. 2004 May 15;116(10):682-92. doi: 10.1016/j.amjmed.2004.01.009. PMID: 15121495.
4. Myers J, Prakash M, Froelicher V, Do D, Partington S, Atwood JE. Exercise capacity and mortality among men referred for exercise testing. *N Engl J Med*. 2002 Mar 14;346(11):793-801. doi: 10.1056/NEJMoa011858. PMID: 11893790.
5. Anderson L, Oldridge N, Thompson DR, Zwisler AD, Rees K, Martin N, Taylor RS. 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. doi: 10.1016/j.jacc.2015.10.044. PMID: 26764059.
6. Winnige P, Vysoky R, Dosbaba F, Batalik L. Cardiac rehabilitation and its essential role in the secondary prevention of cardiovascular diseases. *World J Clin Cases*. 2021 Mar 16;9(8):1761-1784. doi: 10.12998/wjcc.v9.i8.1761. PMID: 33748226; PMCID: PMC7953385.
7. Grace SL, Turk-Adawi KI, Contractor A, Atrey A, Campbell NR, Derman W, Ghisi GL, Sarkar BK, Yeo TJ, Lopez-Jimenez F, Buckley J, Hu D, Sarrafzadegan N. Cardiac Rehabilitation Delivery Model for Low-Resource Settings: An International Council of Cardiovascular Prevention and Rehabilitation Consensus Statement. *Prog Cardiovasc Dis*. 2016 Nov-Dec;59(3):303-322. doi: 10.1016/j.pcad.2016.08.004. Epub 2016 Aug 17. PMID: 27542575.
8. Anderson L, Thompson DR, Oldridge N, Zwisler AD, Rees K, Martin N, Taylor RS. Exercise-based cardiac rehabilitation for coronary heart disease. *Cochrane Database Syst Rev*. 2016 Jan 5;2016(1):CD001800. doi: 10.1002/14651858.CD001800.pub3. Update in: *Cochrane Database Syst Rev*. 2021 Nov 6;11:CD001800. PMID: 26730878; PMCID: PMC6491180.
9. Pack QR, Squires RW, Lopez-Jimenez F, Lichtman SW, Rodriguez-Escudero JP, Zysek VN, Thomas RJ. The current and potential capacity for cardiac rehabilitation utilization in the United States. *J Cardiopulm Rehabil Prev*. 2014 Sep-Oct;34(5):318-26. doi: 10.1097/HCR.000000000000076. PMID: 25098437.
10. Anderson L, Thompson DR, Oldridge N, Zwisler AD, Rees K, Martin N, Taylor RS. Exercise-based cardiac rehabilitation for coronary heart disease. *Cochrane Database Syst Rev*. 2016 Jan 5;2016(1):CD001800. doi: 10.1002/14651858.CD001800.pub3. Update in: *Cochrane Database Syst Rev*. 2021 Nov 6;11:CD001800. PMID: 26730878; PMCID: PMC6491180.
11. Lavie CJ, Ozemek C, Carbone S, Katzmarzyk PT, Blair SN. Sedentary Behavior, Exercise, and Cardiovascular Health. *Circ Res*. 2019 Mar;124(5):799-815. doi:10.1161/CIRCRESAHA.118.312669. PMID: 30817262.