Cardiac Rehabilitation Dose Around the World: Variation and Correlates

Abstract

**Background:** Cardiac rehabilitation (CR) is recommended in clinical practice guidelines, but dose prescribed varies highly by country. This study characterized the dose offered in supervised CR programs and alternative models worldwide, and their potential correlates.

**Methods and Results:** In this cross-sectional study, an online survey was administered to CR programs globally. Cardiac associations and local champions facilitated program identification. Countries were classified based on region and income categories. Dose was operationalized as program duration x sessions/week. Generalized linear mixed models were performed to assess correlates.

111/203 (54.7%) countries in the world offered CR; data were collected in 93 (83.8% country response rate; N=1082 surveys, 32.1% program response rate). Globally, supervised CR programs were a median of 24 sessions (n=619, 57.3% programs ≥12 sessions); home-based and community-based programs offered 6 and 20 sessions respectively. There was significant variation in supervised CR dose by region (p<0.001), with the Americas (median=36 sessions) offering a significantly greater dose than several other regions; there was also a trend for variation by country income classification. There was no difference in home-based dose by region (p=.43), but there was for community-based programs (p<0.05; Americas offering greater dose). There was a significant dose variation in both home and community-based programs by income classification (p=0.002 and p<0.001 respectively), with higher doses offered by upper-middle-income than high-income countries. Correlates of supervised CR dose included more involvement of physicians (p=0.026), proximity to other programs (p=0.002), and accepting patients with non-cardiac indications (p=0.037).

**Conclusion:** CR programs in many countries may need to increase their dose, which could be supported through physician champions.