AACVPR ignite 38TH ANNUAL MEETING

JCRP Highlights: From the Journal to the Gym

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Disclosures

- I have no relevant disclosures

JCRP Highlights: From the Journal to the Gym

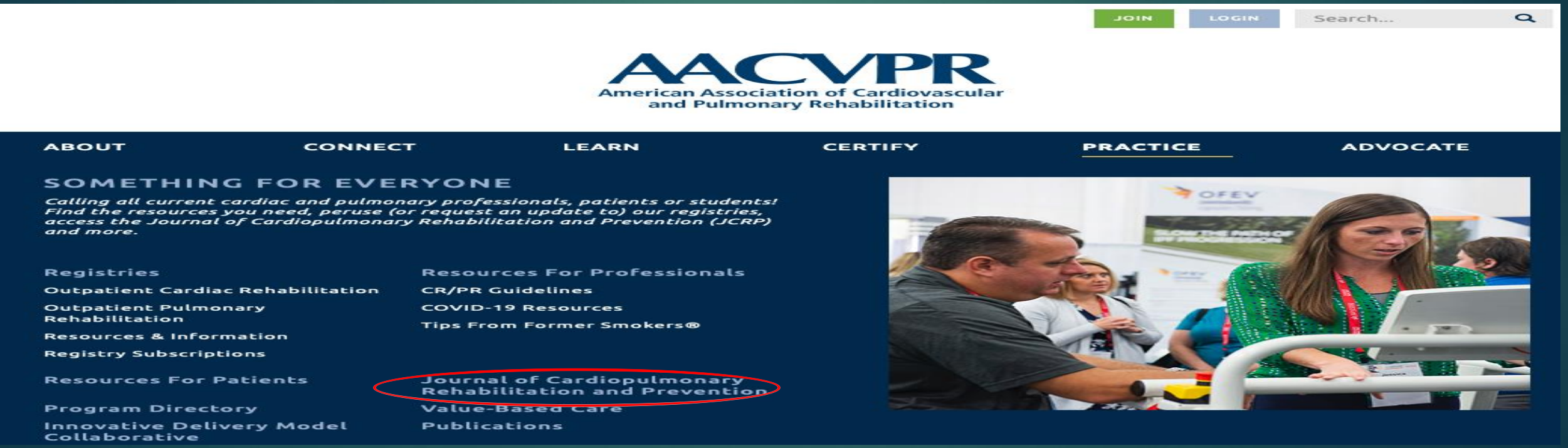
- Part I
  - Brief Overview of JCRP
  - Focus / Importance to AACVPR members
  - Useful Features

About the Journal

- JCRP was the first, and remains the only, professional journal dedicated to **improving multidisciplinary clinical practice** and **expanding research evidence** specific to both **cardiovascular and pulmonary rehabilitation**. In 2007, JCRP expanded its scope to include **primary prevention** of cardiovascular and pulmonary diseases.
- "JCRP is the official Journal of the American Association of Cardiovascular and Pulmonary Rehabilitation and the Canadian Association of Cardiovascular Prevention and Rehabilitation."
- Important for members to stay current with **evidence-base**.

JCRP is a Member Benefit

- All have access to electronic copy: https://journals.lww.com/jcrjournal/pages/default.aspx
- Can request (with fee) to receive a print copy
- Or from link on AACVPR website



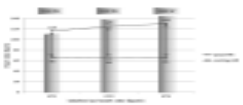
JCRP Website – Visual Abstracts

Featured Articles in This Issue

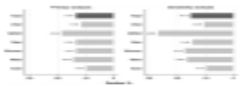
Women's Health-Related Quality of Life Substantially Improves With Tailored Cardiac Rehabilitation: A SYSTEMATIC REVIEW AND META-ANALYSIS

Health-related quality-of-life (HRQL) outcomes in women with coronary heart disease attending exercised-based cardiac rehabilitation (EBCR) have not...

Evaluation of Maintained PhysicAl CaPacity 1-yr After Coronary Patient Cardiac Rehabilitation (EMAP): A FRENCH MULTICENTER STUDY



Utilization Of Cardiac Rehabilitation During the SARS-CoV-2 Pandemic In Germany: A Difference-In-differences Analysis



Validation of the PROMIS-29v2 Health-Related Quality-of-Life Questionnaire in Patients With Coronary Heart Disease Participating in Remote Cardiac Rehabilitation

JCRP Website – other useful features

- Information from Editor-in-Chief (about this issue)
  - With a 90 second video of issue highlights
- Current Issue
  - Table of Contents --- New Feature Invited Editorial
- Articles and Issues Tab
  - Current, Previous, Published Online First (newest research available)
- Collections Tab
  - AACVPR Statements, Reviews, Commentaries, Infographics
- Search Bar (topic, key word, author name, etc.)
- Most Popular – articles from recent issues

Helpful Feature for Clinicians

- Every article has a "Key Perspectives" summary
- What is Novel? And Clinical/Research Implications

KEY PERSPECTIVE

What is novel?

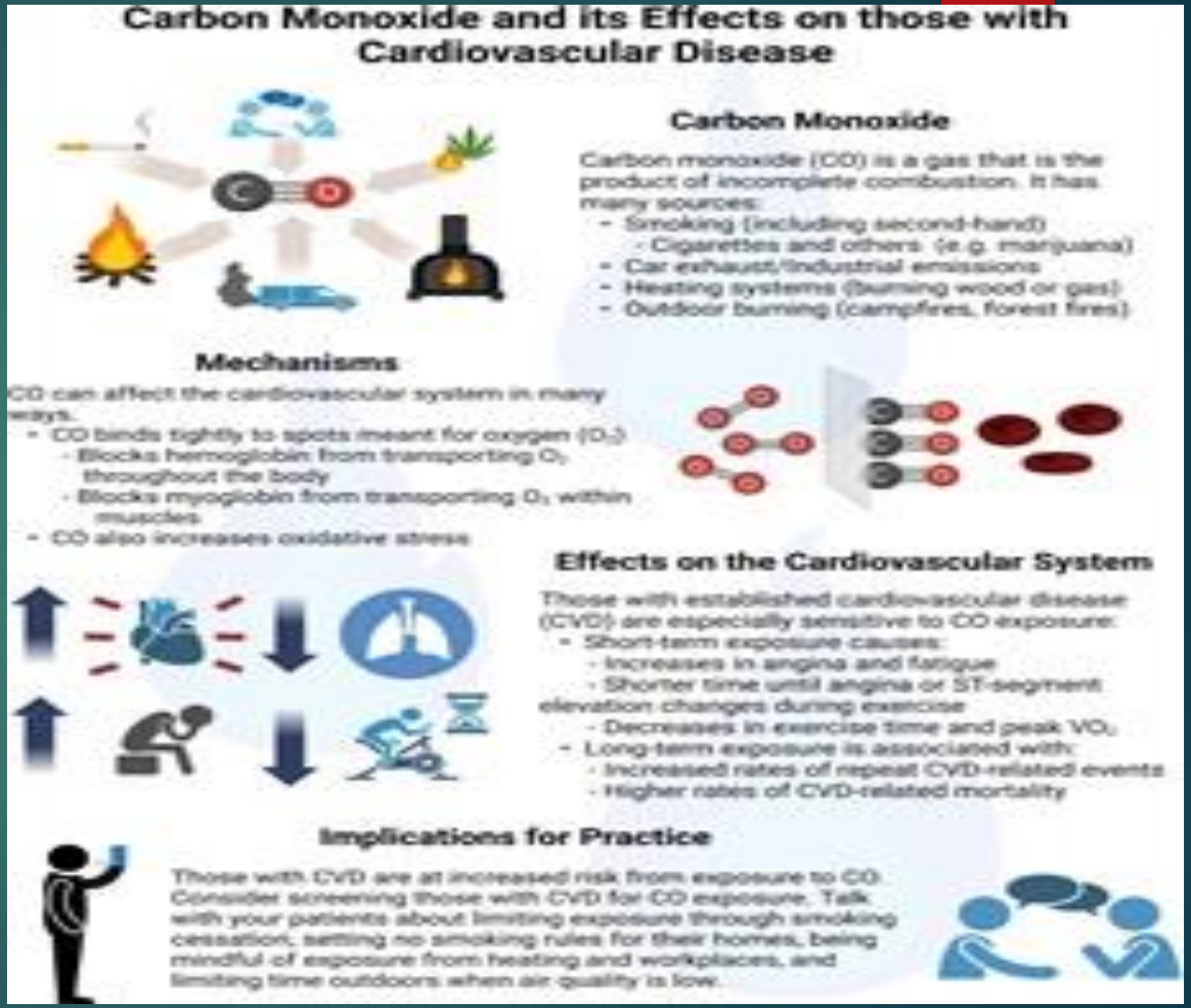
- An increase in post-lung transplant exercise capacity was not accompanied by an increase in quadriceps torque in either the center-based or telerehabilitation group.
- Quadriceps torque had a stronger correlation to lower extremity function in the post-lung transplant period compared with pre-lung transplant.

What are the clinical and/or research implications?

- Variability in post-lung transplant functional recovery occurred in the center-based and telerehabilitation groups.
- Telerehabilitation before and early after lung transplantation may be an alternative to center-based rehabilitation; however, more research is needed to determine the optimal methods of delivery.

Helpful Features for Clinicians

- Infographics
- Invited Editorials



JCRP Highlights: From the Journal to the Gym Part II

- Review selected manuscripts published in JCRP in 2022 and 2023
- Overview key Methodology, participant characteristics
- Provide key Results reported
- Overview the Study Limitations and the Author's Conclusion
- Discuss Clinical Implication – Q&A

Clinical Outcomes and Qualitative Perceptions of In-person, Hybrid, and Virtual Cardiac Rehabilitation

Ganeshan, Smitha MD, MBA; Jackson, Hunter BA; Grandis, Donald J. MD; Janke, David MA, BS; Murray, Michelle L. MSN, BS, RN; Valle, Vanessa CEP; Beatty, Alexis L. MD, MAS

Author Information

Journal of Cardiopulmonary Rehabilitation and Prevention 42(5):p 338-346, September 2022. | *DOI:* 10.1097/HCR.0000000000000688

Primary Objective:

To compare, in CR patients, the association of in-person, hybrid, and virtual CR with change in performance on the 6MWT between enrollment and completion

Method

- patients who enrolled in CR at the UCSF (10/22/19 to 5/10/21)
  - Groups based on patient preference and recommendations from CR staff
- Change in the 6MWT was used as the primary outcome.
- Secondary outcomes included resting BP, waist-to-hip ratio (WHR), and questionnaires
  - PHQ-9 (depression), GAD-7 (anxiety), cardiac self-efficacy

Results

- Patients completing CR showed improvement in 6MWT, SBP, DBP, PHQ-9, and GAD-7 scores
- compared with in-person patients, hybrid and virtual patients experienced similar improvements in 6MWT, BP control, and GAD-7 scores
- Virtual – lower baseline PHQ-9 and less improvement
- No groups had a change in WHR or cardiac self-efficacy
- *Of those who participated in CR after the mobile application became available, 65% enrolled to use the mobile application*

Limitations /Conclusion / Discussion

- Limitations: during COVID-19; single center; observational (vs. random)
- *Authors Conclusion: Hybrid and virtual CR were associated with similar improvements in functional capacity to in-person and were perceived favorably by patients and staff. Virtual and hybrid CR have the potential to expand availability without compromising outcomes.*
- Discussion / Q & A

EXERCISE PRESCRIPTION

Comparison of Ratings of Perceived Exertion and Target Heart Rate–Based Exercise Prescription in Cardiac Rehabilitation

A RANDOMIZED CONTROLLED PILOT STUDY

Shea, Meredith G. PhD; Headley, Samuel PhD; Mullin, Elizabeth M. PhD; Brawner, Clinton A. PhD; Schilling, Patrick BS; Pack, Quinn R. MD, MSc

Author Information

Journal of Cardiopulmonary Rehabilitation and Prevention 42(5):p 352-358, September 2022. | *DOI:* 10.1097/HCR.0000000000000682

Primary Objective:

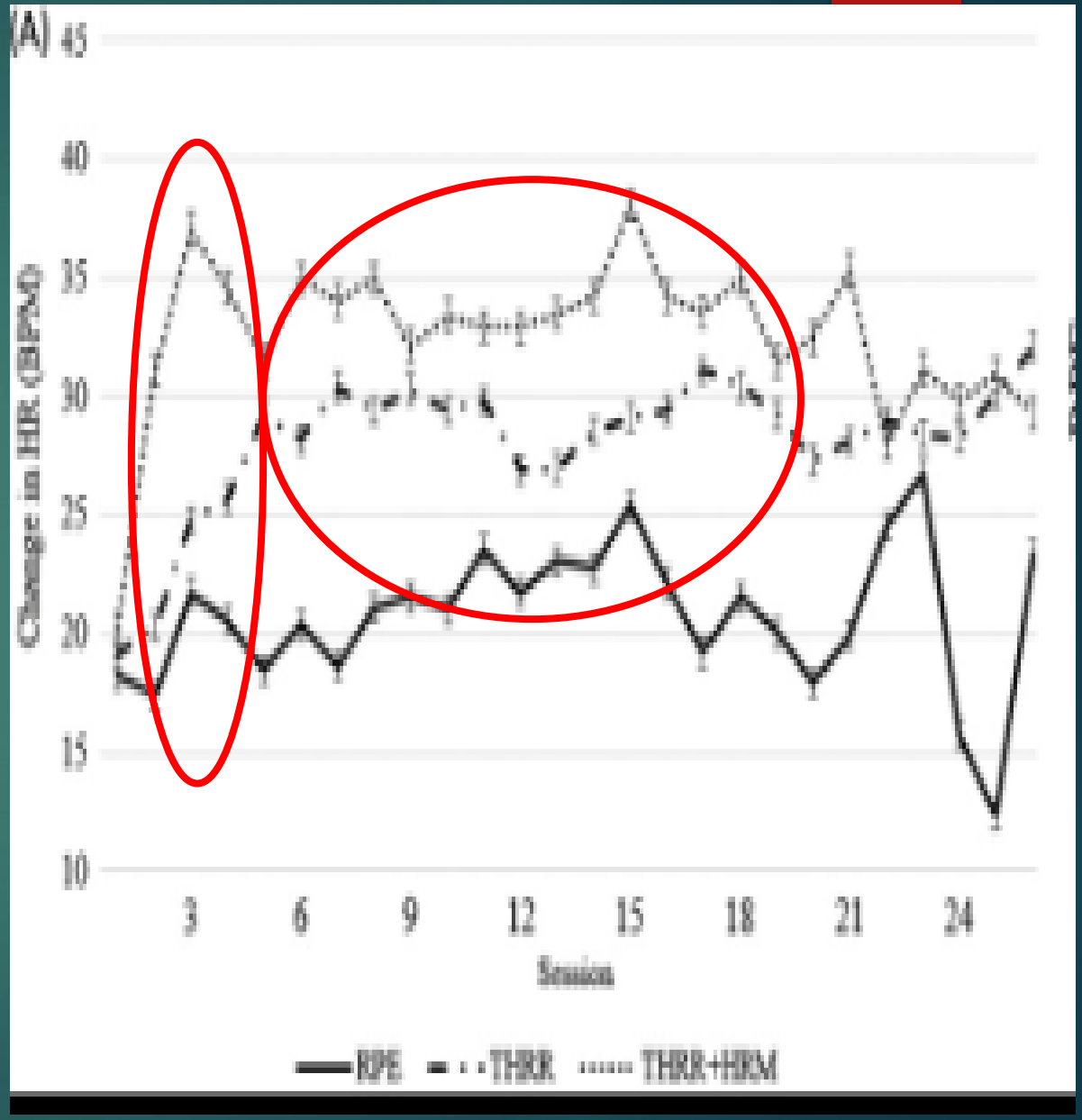
To compare exercise prescriptions based on RPE or target heart rate ranges (THRR) to assess whether we could implement a THRR exercise prescription (as a pilot study)

Method

- Patients referred to CR with a diagnosis of PCI, MI, CABG were eligible
  - excluded patients at high risk of nonadherence or early dropout
- RPE group were asked to exercise between an RPE of 3 and 4 on the 10-point modified Borg scale for all 36 sessions of CR
- Using subject peak and resting HR measured during the maximal ET, a THRR was calculated based on 60-80% of heart rate reserve (HRR)
  - Subjects randomized to the THRR + HR Monitor (HRM) group were given a A370 and H10 (Polar) HRM
- Each group did ~ 30-40 min of aerobic exercise (TM or cycle). Only exercise intensity differed between groups
- At the end of CR
  - Consistent with AACVPR performance measures, the change in workload METs at exercise training workload was calculated for all patients from the third to the last CR session
    - three intervals—baseline: first four sessions of CR (baseline), and then two sequential periods of five CR sessions each (T1 and T2)
  - All patients were given a satisfaction survey

Results

- Exercise HR (from baseline):
  - no change in RPE group
  - both THRR increased
- The THRR and THRR + HRM groups gained an additional 0.7 and 1.3 workload METs compared with the RPE group
  - not statistically significant (pilot study), but may be clinically significant
  - Our findings highlight the critical importance of exercise intensity in CR
- all groups strongly agreed with statements endorsing plans to continue exercise, program enjoyment, and understanding of prescription methods



Limitations /Conclusion / Discussion

- Limitations: Statistical power was lower (pilot study) and there were COVID-19-related dropouts; single-center
- *Authors Conclusion: Patients randomized to THRR had higher exercise HR, but similar RPE ratings. The THRR may be preferable to RPE in CR populations for cardiorespiratory fitness gains, but this needs confirmation in an adequately powered trial.*
- Discussion / Q & A

EXERCISE PRESCRIPTION

Exercise Prescription Methods and Attitudes in Cardiac Rehabilitation

A NATIONAL SURVEY

Pack, Quinn R. MD, MSc; Shea, Meredith PhD; Brawner, Clinton A. PhD; Headley, Samuel PhD; Hutchinson, Jasmin PhD; Madera, Hayden MS; Keteyian, Steven J. PhD

Author Information

Journal of Cardiopulmonary Rehabilitation and Prevention 42(5):p 359–365, September 2022. | *DOI:* 10.1097/HCR.0000000000000680

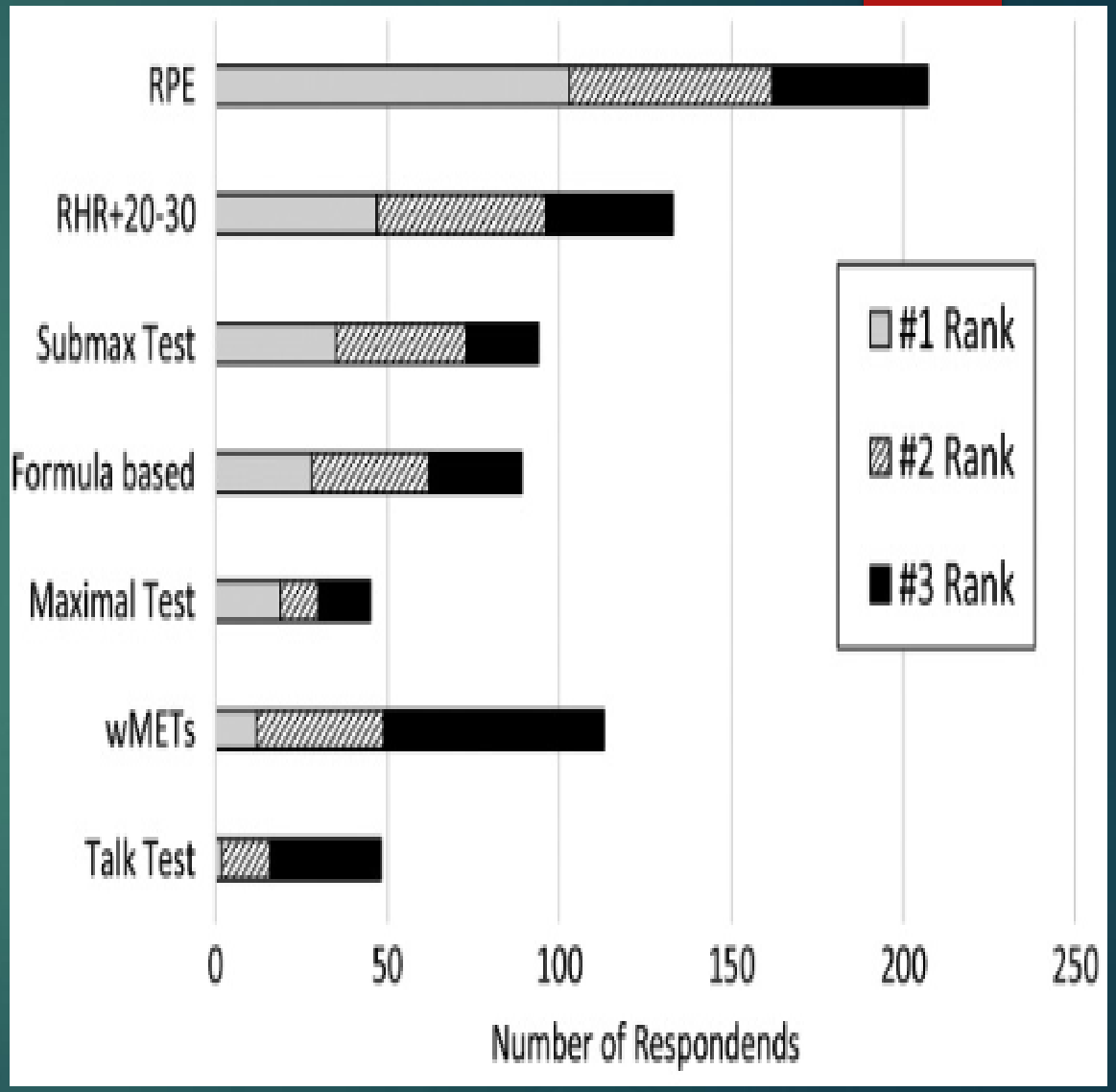
Primary Objective:
to describe the session duration, mode, and intensity of exercise prescribed in CR
and to evaluate the prevalence, opinions, and policies regarding Exercise Testing.

Method

- AACVPR sent a 40-item survey to all CR program directors via SurveyMonkey
- 1470 valid emails, received partial (19%) and full (19%) (17%) responses
- Program description (# of patients; CR session duration; equipment)
- Ex. Test: used for ___% of patients?; influence ExRx?
- THR: Used? Method of Calculation?; Or Use RPE for ExRx
- Interval Training: Used?; By how many?; when does it begin?
- ExRX patterns and progression

Results

- Most: 5-min warm-up/cool-down, 35 min of aerobic (TM or seated stepper), 10 min of strength (12 programs spent 0 min for strength).
- On entry to CR, 17 ± 28% of patients had a maximal ET
- Most (98%) reported using RPE to guide exercise intensity
  - 91% reported using THRR for at least some patients
- Completion of CR: CRF was assessed most often by estimated METS (based on exercise training workloads - 45%), followed by the 6-min walk test (41%)



Limitations /Conclusion / Discussion

- Limitations: low response rate and representativeness of sample; sent at end of first COVID-19 surge
- *Authors Conclusion:* Most programs use RPE and RHR +20-30 bpm without maximal ET to guide exercise intensity, even though nearly all professional society guidelines recommend maximal ET and the use of an HRR-based approach. How these exercise prescription patterns impact CRF changes is unknown but is worrisome for an exercise intensity that is too low and not tailored to individual physiological responses.
- Discussion / Q & A

CARDIAC REHABILITATION

A Community–Informed Virtual World–Based Cardiac Rehabilitation Program as an Extension of Center–Based Cardiac Rehabilitation

MIXED–METHODS ANALYSIS OF A MULTICENTER PILOT STUDY

Brewer, LaPrincess C. MD, MPH; Abraham, Helayna MD; Kaihoi, Brian MBA; Leth, Shawn MEd; Egginton, Jason MPH; Slusser, Joshua BS; Scott, Christopher MS; Penheiter, Sumedha PhD; Albertie, Monica MA; Squires, Ray PhD; Thomas, Randal MD; Scales, Robert PhD, MS; Trejo–Gutierrez, Jorge MD; Kopecky, Stephen MD

Author Information

Journal of Cardiopulmonary Rehabilitation and Prevention 43(1):p 22–30, January 2023. | DOI: 10.1097/HCR.0000000000000705

Primary Objective:
to assess the feasibility of delivery & acceptability of a VW-based CR program (Destination Rehab), a program designed to address the education, health behavior modification, & CVD risk factor control components of CR, as an extension of traditional CBCR across multiple clinical sites.

Method

RECRUITMENT	DATA COLLECTION	INTERVENTION	DATA COLLECTION	FOCUS GROUP
Patients hospitalized with an indication for CR were recruited at three time points: - Cohort 1: January 2017 - Cohort 2: April 2017 - Cohort 3: June 2017	- Pre-intervention survey completed after recruitment - Anthropometric and laboratory data were collected from the EMR	**8-wk lecture series on VW-Platform *Destination Rehab* plus:** - Weekly VW peer support group and Proteus Effect discussions - VW fitness center, grocery store and restaurant tours	- Post-intervention survey completed - Anthropometric and laboratory data were collected from follow-up clinical visits and extracted from the EMR	Single post-intervention focus group including patients from all three cohorts held in September 2017 to evaluate patient satisfaction

A. Support group
B. Lecture hall with speaker
C. Patients attending lecture
D. Patient using treadmill in fitness center

Results

- significant improvements in time engaged in stretching /flexibility exercises in men (Δ+ .9 ± .9 days/week,) and TC (Δ−31.6 ± 46.2 mg/dL)
- Although not significant, there were other positive trends in:
  - mean time engaged in vigorous PA and improvement in LDL-C
  - Men, a reduction in mean SBP and DBP; Women lost an average of 3.1 kg
  - Women had larger improvements in TC and LDL-C compared with men
- Focus Group:
  - *Destination Rehab* served as a complement to but did not replace CBCR
  - Patients acknowledged a perceived improvement in knowledge regarding CV health
  - Patients were comforted by listening to the stories of others and realizing that they are not alone; social connection fostered a sense of accountability

Limitations /Conclusion / Discussion

- Limitations: small sample size; did not assess changes in prescribing of CV-related meds, or med adherence, or obj. functional status measurements
- *Authors Conclusion:* The VWCR program is a feasible, highly acceptable, and innovative platform to potentially influence health behaviors and CVD risk and may increase accessibility to disadvantaged populations with higher CVD burdens.
- Discussion / Q & A

CARDIAC REHABILITATION

Association of Perceived Health Competence With Cardiac Rehabilitation Initiation

Hu, Jiun-Ruey MD, MPH; Huang, Shi PhD; Bosworth, Hayden B. PhD; Freedland, Kenneth E. PhD; Mayberry, Lindsay S. PhD; Kripalani, Sunil MD, MSc; Wallston, Kenneth A. PhD; Roumie, Christianne L. MD, MPH; Bachmann, Justin M. MD, MPH; for the Vanderbilt Inpatient Cohort Study (VICS)

Author Information

Journal of Cardiopulmonary Rehabilitation and Prevention 43(2):p 93-100, March 2023. | *DOI:* 10.1097/HCR.0000000000000749

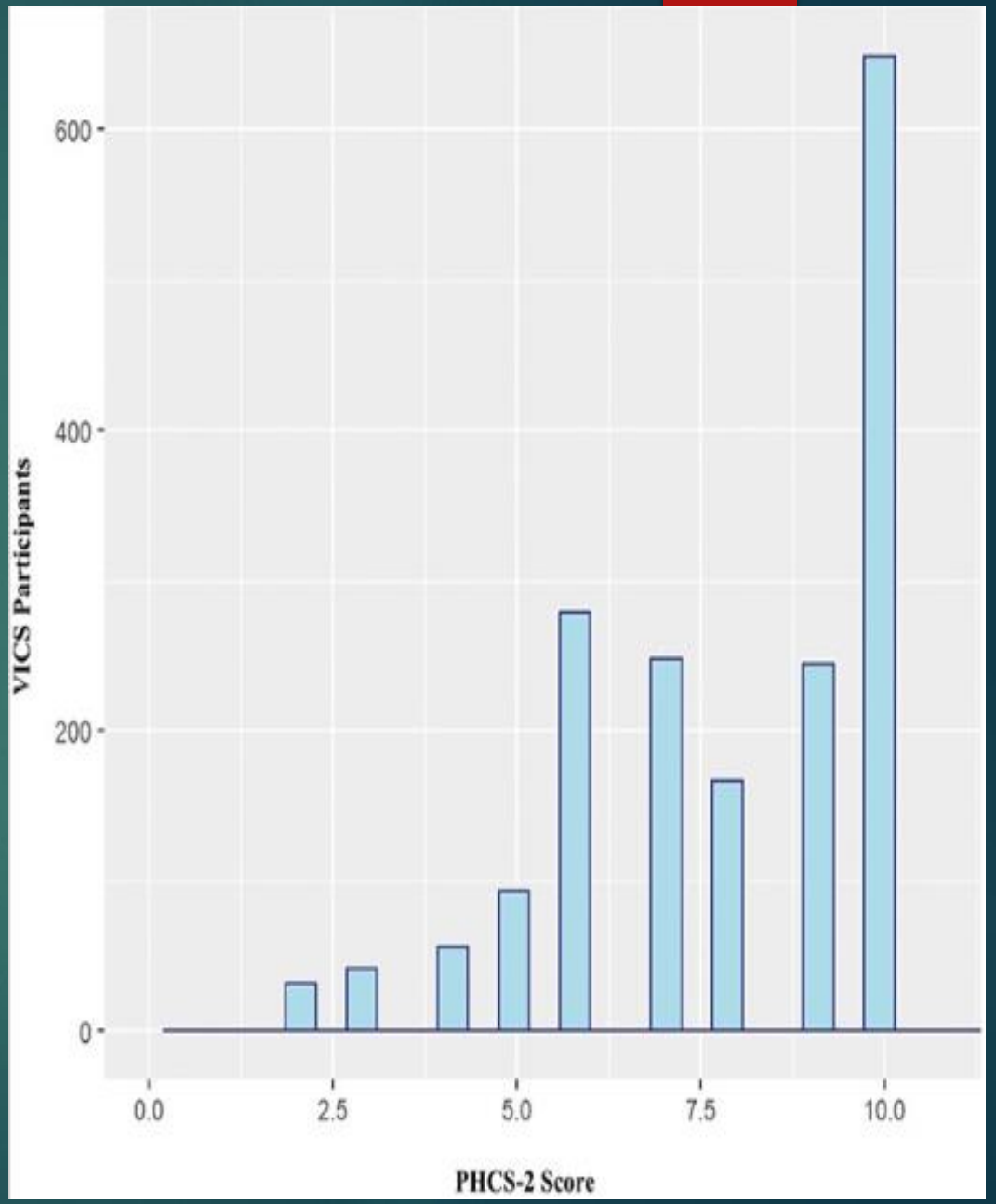
Primary Objective:
to evaluate the association of perceived health competence with CR initiation among patients hospitalized for acute coronary syndrome (ACS) after adjusting for demographic, clinical, and psychosocial characteristics

Method

- The Vanderbilt Inpatient Cohort Study (VICS) characterized the effect of psychosocial characteristics on post-discharge outcomes in ACS inpatients hospitalized from 2011 to 2015.
- The primary predictor, perceived health competence, was assessed with two items (PHCS-2) chosen from the eight-item Perceived Health Competence Scale (PHCS).
- Clinical factors and comorbidities, including HF, diabetes, BMI, smoking status, and length of hospitalization, were obtained from the EHR.
- **Also assessed were:** adherence to preadmission medication regimen, **health literacy, resilient coping, distrust of the health care system, perceived social support, health-related quality of life, depression, and cognitive status.**

Results

- Participants initiating CR had higher perceived health competence than participants who did not initiate CR
- Several demographic and clinical covariates were also associated with CR initiation:
  - Comorbid heart failure - lower initiation
  - Current smoker- lower initiation
  - Commercial insurance –higher initiation
  - Higher Income–higher initiation



Limitations /Conclusion / Discussion

- Limitations: referral status unknown, self reported initiation, mostly white
- *Authors Conclusion:* we found that perceived health competence was strongly associated with self-reported CR initiation in patients hospitalized for ACS.
- Discussion / Q & A

CARDIAC REHABILITATION

The Association Between a Second Course of Cardiac Rehabilitation and Cardiovascular Outcomes Following Repeat Percutaneous Coronary Intervention Events

Zhang, Wenliang MD; Supervia, Marta MD; Dun, Yaoshan MD; Lennon, Ryan J. MS; Ding, Rongjing MD; Sandhu, Gurpreet MD, PhD; Tilbury, Thomas MD; Squires, Ray W. PhD; Vardar, Ufuk MD; Tabatabaei, Niloufar MD; Thomas, Randal J. MD, MS

Author Information

Journal of Cardiopulmonary Rehabilitation and Prevention 43(2):p 101–108, March 2023. | *DOI:* 10.1097/HCR.0000000000000717

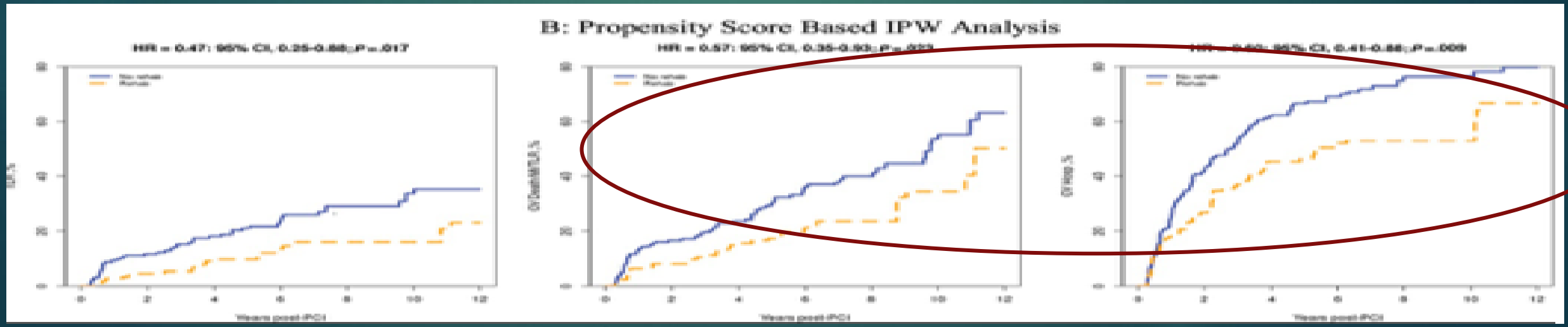
Primary Objective:
to assess the association between a second course of CR and CV outcomes in patients who have undergone a second PCI procedure.

Method

- retrospective observational study of patients who underwent PCI at the Mayo Clinic between January 1, 1998, and December 31, 2013
  - participated in >1 session of CR after first PCI; had a repeat PCI event after the first CR, occurring >6 months after the index PCI; (6) survived >3 months after repeat PCI
- Mayo Clinic CR program, during the time of this study, was an in-person, multidimensional program started within 1-2 weeks after a CV event and included 3, 1 hour supervised sessions/wk (total of 36 sessions).
- The primary end point of our study was all-cause mortality. Secondary end points were cardiac death, MI, coronary revascularization (PCI or CABG), CV hospitalization, and a composite of all secondary end points, all of which were ascertained by a review of patient medical records. Death certificates were used to classify CV and non-CV causes of death.

Results

- the primary end point (total mortality)
  - did not differ between the CR and no CR groups
- the composite end point (CV death/MI/revascularization) and CV hospitalization were significantly lower in CR participants than in nonparticipants
- Yellow line - CR participants; Blue line - nonparticipants.



Limitations /Conclusion / Discussion

- Limitations: single center; observational; no info on income, education, transportation access, etc.,
  - which may have influenced participation
- *Authors Conclusion:* Participation in a second course of CR was associated with lower hospital readmissions, subsequent revascularization procedures, and an end point of CV death, MI, and revascularization
  - *only 40% participated in a second course of CR*
- Discussion / Q & A

CARDIAC REHABILITATION

Long-Term Maintenance of Cardiorespiratory Fitness Gains After Cardiac Rehabilitation Reduces Mortality Risk in Patients With Multimorbidity

Ozemek, Cemal PhD; Arena, Ross PhD, PT; Rouleau, Codie R. PhD; Campbell, Tavis S. PhD; Hauer, Trina MSc; Wilton, Stephen B. MD, MSc; Stone, James MD, PhD; Laddu, Deepika PhD; Williamson, Tamara M. MSc; Liu, Hongwei MD, MSc; Chirico, Daniele PhD; Austford, Leslie D. MN, MBA, CMPE; Aggarwal, Sandeep MD

Author Information

Journal of Cardiopulmonary Rehabilitation and Prevention 43(2):p 109-114, March 2023. | *DOI:* 10.1097/HCR.0000000000000734

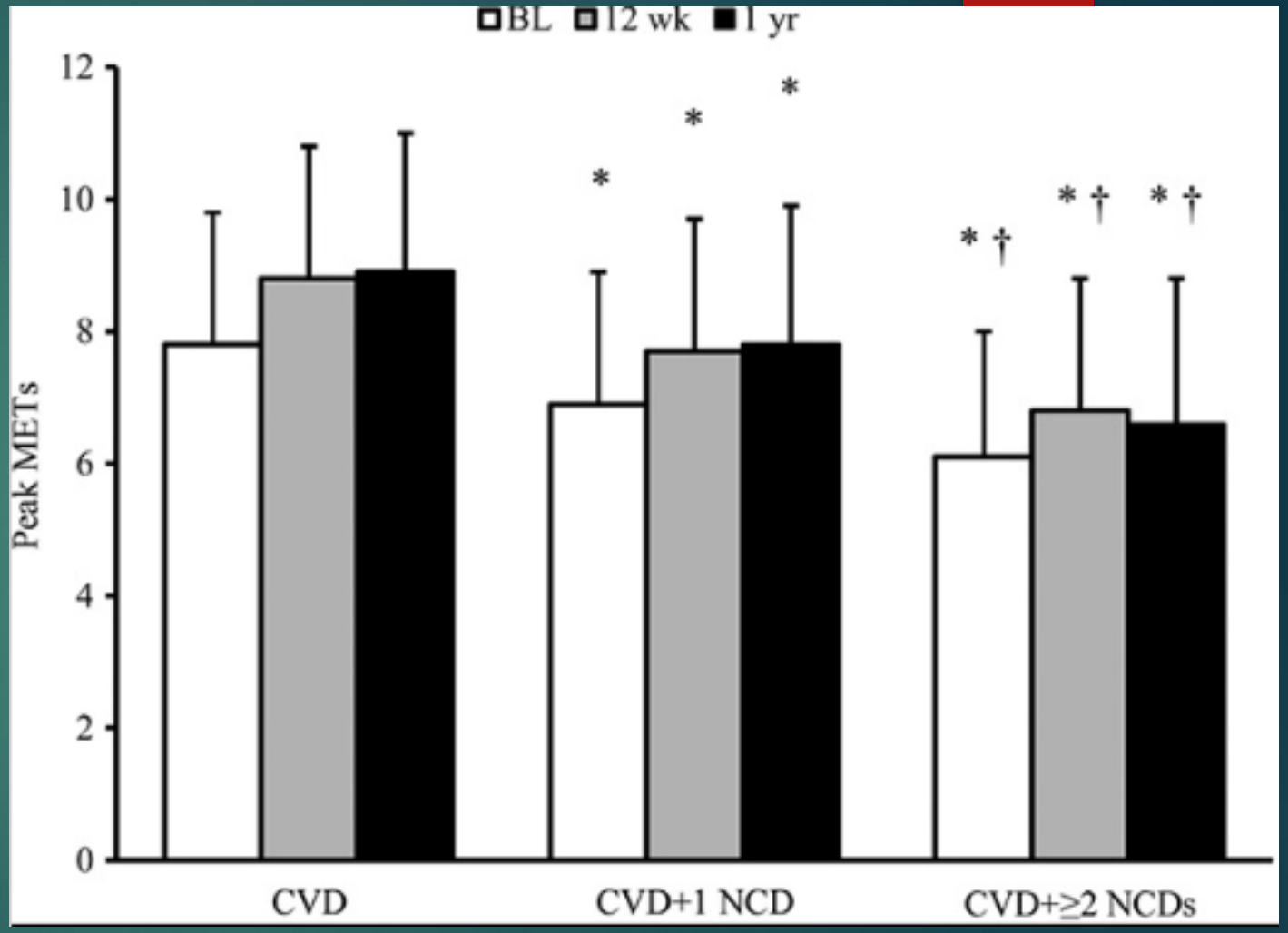
Primary Objective:
to characterize the impact of multimorbidity and cardiorespiratory fitness (CRF) on mortality in patients completing cardiac rehabilitation (CR).

Method

- patients with a history of CVD were referred to the phase II CR program with the TotalCardiology Rehabilitation and Risk Reduction Program, in Calgary, Alberta, Canada, between January 1996 and March 2016
  - Inclusion: referral for CR, a diagnosis of CAD, were within 1 yr of their first catheterization at the time of joining CR, and completed the CR program (a GXT at both baseline and 12-wk post-CR)
    - CRF- characterized by peak METs estimated from peak workload achieved on GXT
    - stratified as g CVD, or CVD+1 NCD, or CVD+≥2 NCDs
- outcome of interest: all-cause mortality; follow-up was on March 2017 to allow a minimum 1-yr follow-up period for all patients
  - models were adjusted for age, sex, waist circumference, and resting hemodynamic variables

Results

- Patients with only CVD had lower risk of all-cause mortality compared with patients with CVD+1 NCD or CVD+≥2 NCDs .
- patients with or NCDs who had a ≥0.5 MET increase from baseline to 1 year survived longer compared with those that had a MET change < 0.5.



*Different (P < .05) from CVD-only group.
†Different (P < .05) from CVD+1 NCD group.

Limitations /Conclusion / Discussion

- Limitations: only CR completers (may have fewer comorbidities) were included-selection bias; estimated peak METs; exercise adherence not known
- *Authors Conclusion:* testing patient CRF at the 1-year post-CR time point offers greater prognostic significance emphasizes the need for CR programs and clinical services to strongly consider tracking CRF as a vital sign to ensure improvements in CRF are maintained long-term
- Discussion / Q & A

CARDIAC REHABILITATION

A Nonexercise Prediction of Peak Oxygen Uptake for Patients With Cardiovascular Disease

DATA FROM THE FITNESS REGISTRY AND THE IMPORTANCE OF EXERCISE INTERNATIONAL DATABASE (FRIEND)

Peterman, James E. PhD; Arena, Ross PhD; Myers, Jonathan PhD; Ades, Philip A. MD; Bonikowske, Amanda R. PhD; Harber, Matthew P. PhD; Marzolini, Susan PhD; Savage, Patrick D. MS; Squires, Ray W. PhD; Lavie, Carl J. MD; Kaminsky, Leonard A. PhD

Primary Objective:
to develop a CVD-specific non-exercise equation for the prediction of peak oxygen uptake ($\dot{V}O_{2peak}$).

Method

- Participants were from the Fitness Registry and Importance of Exercise International Database (FRIEND)
  - diagnosis of CABG, MI, PCI, or HF who met maximal effort criteria during a cardiopulmonary exercise test
  - n = 15 997; 83% male; age 63.1 ± 10.4 years.
- study sample: 80% (n = 12 798) were randomly selected for development of the prediction equation and the remaining 20% (n = 3199) were used for validation of the equation
- Variables considered in the equation included age, sex, height, weight, exercise mode, and CVD diagnosis

Results

- $\dot{V}O_{2peak}$ (mL·kg^{-1}·min^{-1}) = 16.18 – (0.22 × age [yr]) + (3.63*sex [male = 1; female = 0]) + (0.14 × height [cm]) – (0.12 × weight [kg]) + (3.62 × mode [treadmill = 1; cycle = 0]) – (2.70×CABG [yes = 1, no = 0]) – (0.31×MI [yes = 1, no = 0]) + (0.37×PCI [yes = 1, no = 0]) – (4.47×HF [yes = 1, no = 0])

	Any CVD			CABG Category (n = 912)	PCI Category (n = 826)
	All (n = 3199)	Males (n = 2631)	Females (n = 568)		
Measured $\dot{V}_{O_{2peak}}$, mL · kg^{-1} · min^{-1}	19.6 ± 6.3	20.3 ± 6.4	15.9 ± 4.6	18.0 ± 5.2	21.2 ± 6.8
Predicted $\dot{V}_{O_{2peak}}$ from healthy cohort equation, mL · kg^{-1} · min^{-1}	27.5 ± 7.0a	29.5 ± 5.6a	18.7 ± 5.8a	28.0 ± 6.5a	26.7 ± 7.2a
Percent predicted $\dot{V}_{O_{2peak}}$ from healthy cohort equation	141%	145%	117%	156%	126%
Predicted $\dot{V}_{O_{2peak}}$ from CVD cohort equation, mL · kg^{-1} · min^{-1}	19.5 ± 4.1	20.3 ± 3.8	16.1 ± 3.8	18.1 ± 3.4	21.3 ± 3.6
Percent predicted $\dot{V}_{O_{2peak}}$ from CVD cohort equation	100%	100%	101%	100%	101%

Limitations /Conclusion / Discussion

- Limitations: time between the CVD event of an individual and their CPX was not known; doesn't account for other comorbidities that may influence $\dot{V}o_{2peak}$
- *Authors Conclusion:* new equation had a lower error between measured and predicted $\dot{V}O_{2peak}$ than an equation for apparently healthy individuals; however, the error associated with non-exercise prediction equations suggests $\dot{V}O_{2peak}$ should be directly measured whenever feasible
- Discussion / Q & A

PULMONARY REHABILITATION

Strategies to Improve Enrollment and Participation in Pulmonary Rehabilitation Following a Hospitalization for COPD

RESULTS OF A NATIONAL SURVEY

Kotejoshyer, Rajashree ScD; Eve, Julianna PhD; Priya, Aruna MA, MSc; Mazor, Kathleen EdD; Spitzer, Kerry A. PhD, MPA; Pekow, Penelope S. PhD; Pack, Quinn R. MD, MSc; Lindenauer, Peter K. MD, MSc

Author Information

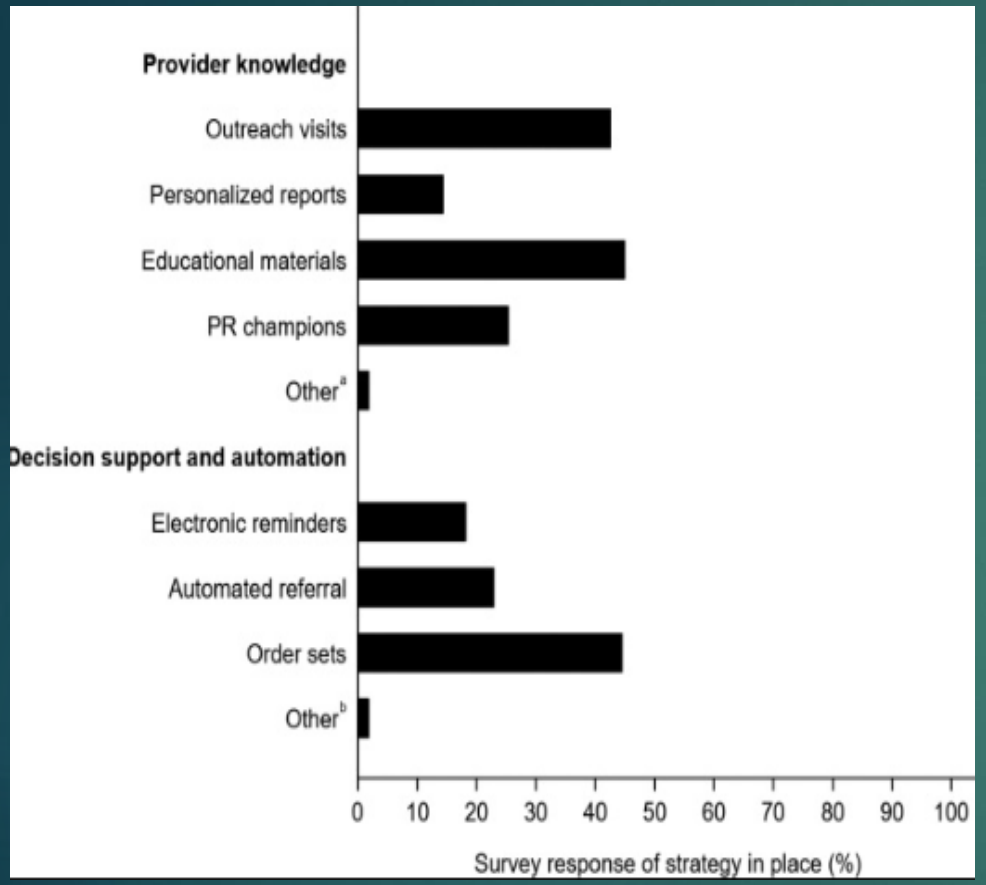
Journal of Cardiopulmonary Rehabilitation and Prevention 43(3):p 192–197, May 2023. | *DOI:* 10.1097/HCR.0000000000000735

Primary Objective:
to describe strategies used to promote participation in PR after a hospitalization for COPD.

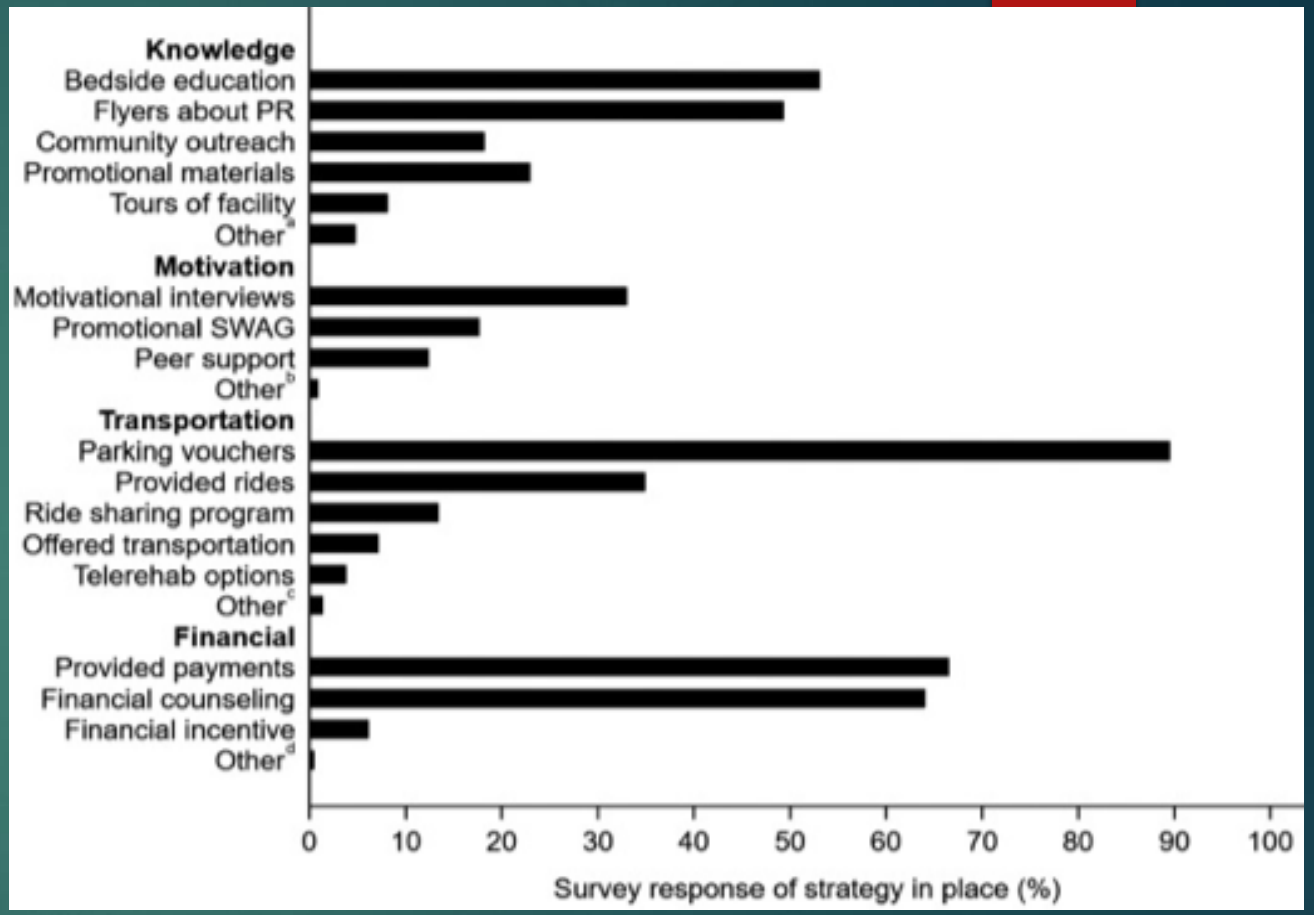
Method

- 39-item survey was developed to generate hypotheses regarding the contextual factors and strategies that might help PR programs achieve high rates of participation after a COPD hospitalization.
- 17 high-performing hospitals were invited for qualitative key informant interviews of which 9 participated, 5 declined, and 3 did not respond., 7 of the respondents were "high-performing" PR programs, ranked in the top 5% of US hospitals for PR enrollment after a hospitalization for COPD among Medicare beneficiaries in 2017
- Survey items focused on organization, provider, and patient-level strategies used to enroll patients in PR prior to the pandemic, and potentially relevant contextual factors

Results



use (%) of provider-level strategies



use (%) of patient-level strategies

Limitations /Conclusion / Discussion

- Limitations: possible that participating programs were representative of all PR programs in the US; characteristics and strategies were self-reported
- *Authors Conclusion:* This study describes current practices used to promote participation in PR; which highlights opportunities to implement strategies targeting organization, provider, and patient-level barriers to enrollment; Future research needs to demonstrate the effectiveness of these strategies, alone or in combination
- Discussion / Q & A

CARDIAC REHABILITATION

Exercise Self-efficacy Improvements During Cardiac Rehabilitation

IMPACT OF SOCIAL DISPARITIES

Candelaria, Dion RN, MN; Kirkness, Ann RN; Bruntsch, Christine AEP; Gullick, Janice PhD, RN; Randall, Sue PhD, RN; Ladak, Laila Akbar PhD, RN; Gallagher, Robyn PhD, RN

Author Information

Journal of Cardiopulmonary Rehabilitation and Prevention 43(3):p 179-185, May 2023. | DOI: 10.1097/HCR.0000000000000742

Primary Objective:
to determine exercise self-efficacy improvements during cardiac rehabilitation (CR) and identify predictors of exercise self-efficacy change in CR participants.

Method

- Data collected were age, sex, ethnicity, family status, education, employment, primary reason for referral, and musculoskeletal comorbidity.
- social disparity was defined as health inequalities/differences in health outcomes experienced by socially relevant groups including race /ethnicity, gender, marital status, education, income, and occupation
- 9-item self-administered Exercise Self-efficacy Scale was used to assess belief in, or confidence to, exercise at CR entry and completion

Results

- Independent predictors of the least improvement in exercise self-efficacy were being from an ethnic minority, not having a spouse/partner, attending in-person CR versus remote CR, and having higher exercise self-efficacy scores at CR entry

Categories	CR Entry Mean ± SD (95% CI)	CR Completion Mean ± SD (95% CI)
Improved (n = 78)	24.05 ± 5.40 (22.83–25.27)	28.19 ± 5.04 (27.05–29.33)
Same (n = 10)	28.70 ± 4.88 (25.21–32.19)	28.70 ± 4.88 (25.21–32.19)
Worsened (n = 45)	26.71 ± 6.24 (24.84–28.58)	22.33 ± 6.83 (20.28–24.39)

Limitations /Conclusion / Discussion

- Limitations: possible that participating programs were representative of all PR programs in the US; characteristics and strategies were self-reported
- *Authors Conclusion:* Confidence to exercise improves for most patients in CR programs, providing an important source of resilience. However, for those who do not improve/worsen, social disparities(ethnic minority and being single) may be important. Screening for exercise self-efficacy at CR entry and completion is recommended, as well as addressing identified differences through targeted and tailored CR interventions for those with disparities
- Discussion / Q & A

RESEARCH LETTERS

A Novel Motivational Approach in the Management of Older Patients With Cardiovascular Disease

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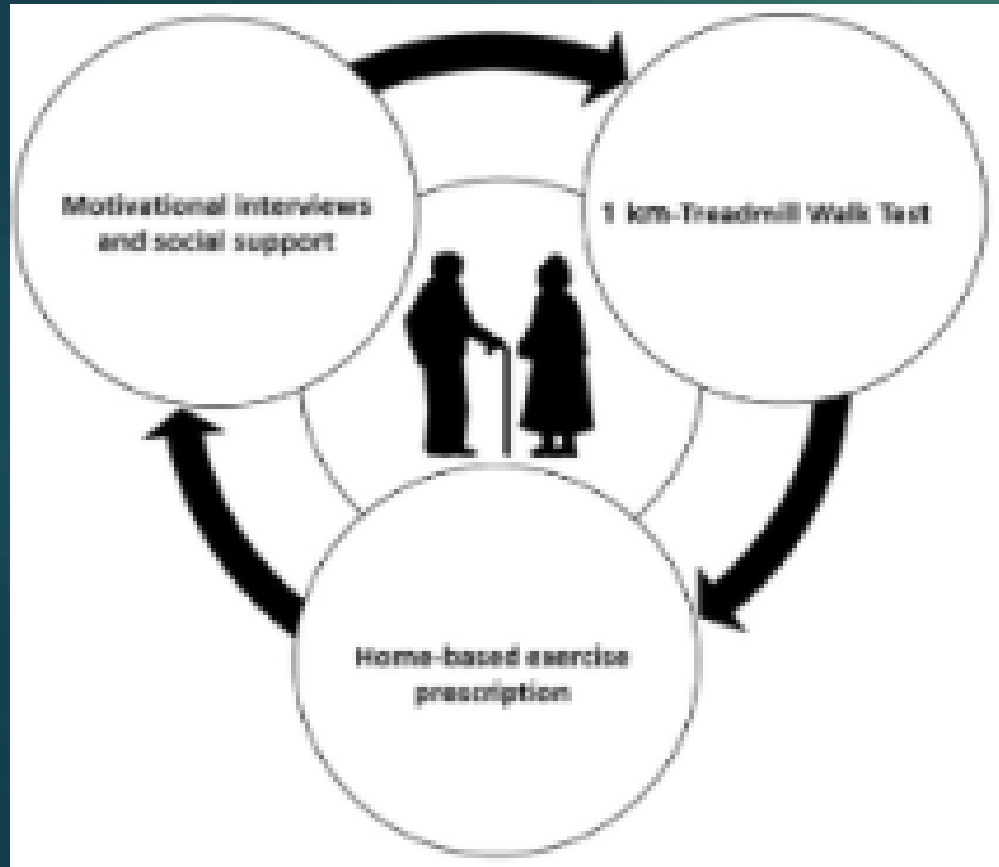
Primary Objective:

To describe the impact of a motivational and educational approach for improving lifestyle change and participation in a more feasible and patient-centered CR/SP program via this narrative study

Method

- employing an approach utilized for the long-term management of patients with stable cardiovascular disease, within a tailored exercise-based secondary prevention program



Motivational interviews and social support:

- Investigation of patient point of view about the illness, after the acute event and during the follow-up;
- Patient impressions about the program, perceptions of physical and psychological barriers;
- Relationship with family members;
- Continuous counselling about physical activity individualized goals.

1 km-Treadmill Walk Test:

- Test starts at a walking speed of 2.0 km/hr, with successive increases of 0.3 km/hr every 30 sec, up to a speed corresponding to a perceived exertion of 11–13 on the 6–20 Rating of Perceived Exertion (RPE) Borg scale. Patients are encouraged to maintain such intensity for up to 1000m. The RPE is assessed approximately every 2 min, adjusting speed if necessary. Heart rate is continuously monitored;
- Patients unable to complete the test at a speed ≥ 3.0 km/hr can perform the test over 500m or 200m and the time to walk is multiplied for 2 or 4, respectively.

Home-based exercise prescription:

- ≥ 20 min of moderate walking, based on the intensity maintained during the test;
- Selection of calisthenics exercises based on the OTAGO Exercise Program, to improve strength and balance;
- Adjustment of the home-based program during each follow-up visit.

Results

- Of 118 participants enrolled in the intervention group, 65 (55%) are still attending the exercise program after 3 years of follow-up.
- Furthermore, a significant improvement has been observed in PA levels. The percentage of patients meeting the minimum recommended dose of PA (≥ 7.5 METs-hours/week) increased over time from 20 to 76%

Limitations /Conclusion / Discussion

- Limitations: intervention likely varies between patients; Note: the proposed CR/SP model does not represent a substitute for traditional CR/SP models. It should be considered an alternative for patients refusing traditional CR or in need of a different option
- *Authors Conclusion:* his motivational and educational exercise-based intervention model is effective in treating older MI patients and may contribute to greater participation for such patients in CR/SP programs.
- Discussion / Q & A

Infographic

Psychological Risk Factors in Cardiac Rehabilitation

ANXIETY, DEPRESSION, SOCIAL ISOLATION, AND ANGER/HOSTILITY

Allison E. Gaffey, PhD; Carly M. Goldstein, PhD, FAACVPR; Megan M. Hays, PhD, FAACVPR; Sharon Y. Lee, PhD; Diann E. Gaalema, PhD, FAACVPR

Primary Objective:
four psychological factors, with the most rigorous scientific evidence in relation to Cardiac Rehabilitation, are presented

Psychological Risk Factors in Cardiac Rehabilitation (CR)

	Anxiety	Depression	Social Isolation	Anger/Hostility
Description	Excessive nervousness or worrying on most days	Consistently low mood or loss of pleasure most days	Objectively having few social relationships or interactions	Antagonistic, cynical, or aggressive thoughts and feelings
Prevalence	1/3 of patients in CR have anxiety	1/3 of patients in CR have depression	1/4 of older adults are isolated	8% of US adults have intense or poorly controlled anger
Health Implications	Difficulty engaging in CR	Higher risk of CR dropout and mortality	Increased morbidity and mortality from cardiovascular disease and stroke	Poorer prognosis and higher mortality
Management	Evaluate via self-report, refer for counseling or medication management	Evaluate via self-report, refer for counseling or medication, encourage CR adherence	Assess social support, provide supportive CR environment, include support persons in education/counseling	Promote healthy coping behaviors, refer for counseling

Summary

- JCRP is a major, albeit underutilized, benefit for AACVPR Members
- JCRP is a great resource for understanding the evolving evidence base for CR and PR Programs
- We encourage you to sign up for alerts from JCRP with a new issue is released and when new articles are published ahead of print
  - Also, engage with JCRP on Social Media (Facebook, Instagram, and X)
- The Key Perspective Feature provides a quick overview of an article
- Infographics are great resource for educational material

Thank you for attending this session

- Enjoy the remainder of the Annual Meeting