Abstract 5 Table 1  Pre and post ISWT results for METs and HRWSI for each group

<table>
<thead>
<tr>
<th>Outcome Measure</th>
<th>TCR (n=19)</th>
<th>Combined CR (n=18)</th>
<th>Web-based CR (n=17)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre (SD)</td>
<td>Post (SD)</td>
<td>95% CI</td>
</tr>
<tr>
<td>METs</td>
<td>5.9 (0.97)</td>
<td>7.4 (1.08)</td>
<td>1.06-1.85</td>
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<tr>
<td>HRWSI</td>
<td>11.3 (2.41)</td>
<td>10.2 (1.87)</td>
<td>-1.85-0.43</td>
</tr>
</tbody>
</table>

Aim To compare the exercise outcomes of a TCR programme, a web-based programme using the myHeart platform (WB-CR) and a group using a combination of TCR and WB-CR (COMBI-CR).

Methods We recruited 57 low-moderate risk patients with coronary heart disease randomly allocated to either TCR, WB-CR or COMBI-CR for a period of eight weeks. TCR was delivered in a hospital setting and patients completed one session per week, plus an education day. WB-CR completed exercise and educational sessions using the myHeart app, and the COMBI-CR group used the myHeart app, alongside TCR. Exercise capacity (Metabolic equivalent [METs] and heart rate walking speed index [HRWSI]) were recorded from the incremental shuttle walk test (ISWT) at baseline, and 8 weeks outcomes were analysed within, and between groups using Statistical Package for the Social Sciences (Version 28).

Results Fifty four patients completed the study. Statistically significant improvements were observed for METs across all three groups after 8 weeks of CR based on the pre and post ISWT results, TCR +1.5 METs, COMBI-CR +1.4 METs and WB-CR +0.9 METs (P<.001). HRWSI also demonstrated a significant decrease across all groups after intervention TCR -1.1(p=.003), COMBI-CR -1.2(p=.005), WB-CR -1.4(p=.005) which equates to a reduction in heartbeats for every 100m walked of 11, 12, and 14 respectively.

Conclusion This study demonstrates the potential benefits of using a digital platform, to increase exercise capacity. All groups showed an improvement in METs and HRWSI after eight weeks of intervention, confirming that there is no apparent difference in clinical outcomes with alternative modes of CR delivery.

TO EXAMINE THE EFFECTIVENESS OF PSYCHOLOGICAL OUTCOMES IN CARDIOVASCULAR PATIENTS USING AN INTERNET-BASED CARDIAC REHABILITATION APPLICATION COMPARED WITH A CONVENTIONAL CARDIAC REHABILITATION PROGRAMME OR A COMBINATION OF BOTH

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10.1136/heartjnl-2023-BACPR.5

Background Traditional cardiac rehabilitation (TCR) is typically delivered in group-based hospital settings. However, despite continuing evidence-based benefits, uptake remains poor, and a menu of options to help overcome associated barriers are required. Web-based CR (WB-CR) may offer an alternative mode of delivery, to help improve overall uptake for individuals with coronary heart disease (CHD).

Aim To compare the effectiveness of TCR programme, a web-based group using the myHeart app (WB-CR), and a group using a combination of both (COMBI-CR).

Methods A three-way study was conducted via recruiting and randomising low-moderate risk Participants with CHD TCR, COMBI-CR and WB-CR groups. Measures of HRQOL, anxiety and depression using the Dartmouth Co-op and Hospital Anxiety and Depression Scale (HADS), were obtained in each group by a CR specialist at baseline and after 8 weeks of intervention. Outcomes were analysed within, and between groups using Statistical Package for the Social Sciences (Version 28).

Results A total of 57 participants were recruited and 54 completed the 8-weeks intervention. Significant improvements in HRQOL scores (Dartmouth Co-op) were reported in TCR (-5.5 points (Confidence Interval [CI], -8.3-2.87, p<.001), COMBI-CR (-4.4 points, CI, -6.9-1.9, p=.001) and WB-CR (-3.9 points, CI, -5.9-1.9, p=.001); and anxiety scores significantly improved in WB-CR (-1.12 points (CI, -2.04-0.19, p=.021), compared to no significance in TCR or COMBI-CR. No significant changes were detected in depression scores across all three groups.

Conclusion This study observed significant improvements in HRQOL, with no difference between TCR, COMBI-CR and WB-CR. All three approaches may offer favourable options for CHD patients. Although small enhancements were reported in HADS, only WB-CR found significance; further supporting the use of digital health. Future studies with a broadened inclusion criterion to further analyse psychological differences in depression, anxiety and segmental HRQOL are required. TCR, COMBI-CR and WB-CR may offer comparable beneficial psychological outcomes for CHD patients.

WHICH AFFECTS REDUCED AEROBIC POWER MORE IN PATIENTS WITH CHD AND ATRIAL FIBRILLATION, AGE OR BODYWEIGHT?

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10.1136/heartjnl-2023-BACPR.6

Background Obesity is a key risk factor for atrial fibrillation (AF) and CHD patients with AF are normally older than those patients without AF. Ageing and body mass both have an impact on an individual’s aerobic functional capacity (aerobic power; VO2max/peak).

Aim The aim of the study was to evaluate the proportional influences of both age and body mass on VO2 peak in CHD rehabilitation (CR) participants with and without AF.

Methods Retrospective analysis of cardiopulmonary exercise test data from previous studies, involving CR participants with and without persistent AF, were analysed in relation to age, body mass, relative VO2peak (ml/kg/min) and absolute
THE IMPACT OF CO-MORBIDITIES ON CARDIAC REHABILITATION OUTCOMES AT THE ROYAL WOLVERHAMPTON NHS TRUST

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Background The 2019 UK NACR reported that approximately 50% of all 6,502 patients referred for cardiac rehabilitation (CR) had two or more comorbidities. Patients with multiple co-morbidities are at higher risk of dying prematurely, hospital admissions, increased length of stay in hospital and poor health-related quality of life than patients with only one chronic medical condition.

Aim To explore the efficacy of exercise rehabilitation in patients with coronary heart disease plus multimorbidity attending a CR programme in an area of deprivation.

Methods Using a repeated-measures t-test, and an independent t-test, retrospective 2021/22 data from 72 patients completing a phase 3 CR exercise programme was analysed to compare outcome measures pre and post an 8-week course of supervised exercise in patients with zero to one comorbidity (Group 1; n = 36) with patients with two or more comorbidities (Group 2; n = 36).

Results Both groups had a significant improvement in METS post exercise (Table 1). However, Group 2 had significantly lower METS on submaximal exercise tolerance test (SETT) at baseline and post exercise (Table 1). There was a significant improvement in Duke Activity Status Index scores in both groups (Group 1: A1 21.10, A2 35.30, p < .001; Group 2: A1 19.80, A2 31.10, p < .001) post exercise intervention. There were no differences between groups. Group 2 had significantly higher BMI pre (Group 1 28.0 kg/m², Group 2 31.1 kg/m²; p = .036) and post (Group 1 28.1 kg/m², Group 2 30.8 kg/m²; p = .048) exercise intervention.

Conclusion Patients with multiple co-morbidities had a lower baseline for functional capacity and less favourable body composition, but still benefited from CR. However, all patients benefited from CR. Although multimorbidity may be a challenge for traditional CR services, referral to CR should be encouraged for all patients, either with or without comorbidities.