

# Does Participation in Cardiac Rehabilitation Really Make a Difference?



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## Introduction

Cardiac rehabilitation (CR) is a Class I recommendation in clinical guidelines following myocardial infarction (MI). Evidence to date indicates those who attend CR have a reduction in fatigue, a reduction in non-fatal recurrent MI in median follow-up of 12 months, and increased exercise performance. Within 6 years after an MI almost a third will experience a recurrent MI, yet little is known how those who attend CR differ from those who did not attend up to 6 years post-MI. Thus, the purpose of this study was to examine fatigue scores, reoccurrence of MI, cardiac risks (hypertension, diabetes mellitus, hypercholesterolemia, body mass index [BMI], tobacco use, physical activity, and inflammation [TNF $\alpha$ , IL-6, hs-CRP]) in those who attended CR and those who did not attend 3 to 6 years after primary MI.

## Research Questions

1. Does participation in CR differ by age, race, and sex?
2. Are there differences in modifiable cardiac risk factors, fatigue levels, reoccurrence of MI, and levels of inflammatory markers in those who attended CR and those who did not attend?

## Methods

A cross-sectional descriptive design was used. The sample ( $N = 156$ ) consisted of 2 groups (those who attended CR ( $n = 83$ ) and those who did not ( $n = 73$ ). Adults age 25 and older with a discharge diagnosis of MI were included, with Blacks overrepresented. Data were analyzed using descriptive and inferential statistics.

## Results

Most of those who attended CR were White (69%) and male ( $n=48$ ; 58%). The mean age in those attending CR was 66 ( $SD=11.9$ ) and those not attending was 63.9 ( $SD=12.31$ ). This difference was not statistically significant ( $t=2.65(154)$ ;  $p=0.173$ ).

Variables	Attend CR $n=83$	Not Attend CR $n=73$	Statistical tests	
Fatigue scores	$n=42$ $M=80.26$ $SD=43.81$	$n=45$ $M=90.53$ $SD=49.37$	$t=1.024$ (85)	$p=0.31$
Recurrent MI	Yes=28 (34%) No=55 (66%)	Yes=26 (36%) No=47 (64%)	$X^2=0.11$	$p=0.81$
HTN	Yes=62 (75%) No=21(25%)	Yes=54 (74%) No=19 (26%)	$X^2=0.11$	$p=0.917$
DM	Yes=32 (39%) No=51(61%)	Yes=25 (34%) No=48 (66%)	$X^2=0.311$	$p=0.577$
Hypercholesterolemia	Yes=66 (80%) No=17 (20%)	Yes=61 (84%) No=12 (16%)	$X^2=0.420$	$p=0.517$
BMI	$M=30.97$ $SD=7.61$	$M=31.26$ $SD=7.08$	$t=0.243$ (154)	$p=0.81$
Tobacco Use	Yes=11 (13%) No=72 (87%)	Yes=25 (34%) No=48 (66%)	$X^2=9.643$	$p=0.002$
Physical activity	Yes=41 (49%) No=42 (51%)	Yes=25 (34%) No=48 (66%)	$X^2=3.65$	$p=0.056$
*TNF $\alpha$	$M=1.74$ $SD=2.13$	$M=1.53$ $SD=1.77$	$t=0.64$ (149)	$p=0.52$
*IL-6	$M=3.37$ $SD=2.63$	$M=2.98$ $SD=2.07$	$t=1.013$ (149)	$p=0.313$
*hs-CRP	$M=4.88$ $SD=7.84$	$M=5.44$ $SD=7.29$	$t=0.45$ (149)	$p=0.654$

\* Missing data



## Discussion

CR has long been thought to improve mortality, morbidity, and quality of life for those who attend following an MI. However, the current study did not find statistically significant differences in those that attended and those that did not, except for tobacco use. Further studies are need to determine the affects of CR on health after MI.

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