Special Report

The ACC 50th Annual Scientific Session

Part Two

From March 18 to 21, 2001, physicians from around the world gathered to learn, to teach and to discuss at the American College of Cardiology 50th Annual Scientific Session.

In this issue of *Perspectives in Cardiology*, we bring you the second of two installments containing summaries we believe will be both interesting and useful for the Canadian family doctor. In this issue we feature:

- Self Efficacy and Cardiac Rehabilitation; and
- Predictors of Quality of Life After Myocardial Infarction.

Self-Efficacy and Cardiac Rehabilitation

Over the years, self-efficacy has been shown to influence health. The role of self-efficacy in cardiac rehabilitation, however, is not well known.

In order to determine what role self-efficacy plays in cardiac rehabilitation, researchers at the University of British Columbia (UBC) correlated self-efficacy with measure of diet and exercise compliance. The results of the study were presented in a poster presentation at the American College of Cardiology 50th Annual Scientific Session.

The Study

The study involved 47 patients, with a mean age of 61±13 years, all of whom were undergoing cardiac rehabilitation. Nineteen per cent of patients were female and 68% had coronary artery disease. The patients were evaluated in two domains—diet and exercise—with a self-efficacy questionnaire (SEQ) using Likert scales.

The adequacy of the patients' diet was assessed using body mass index (BMI) and the adequacy of their exercise levels was assessed using age-adjusted fitness classification (FIT) based on treadmill results. The FIT classification rated patients on a scale of one to seven, with one being the most fit.

The SEQ was completed prior to beginning cardiac rehabilitation, while the BMI and FIT were measured both prior to, and at completion of, cardiac rehabilitation. The rehabilitation program, which all subjects completed, lasted four months and involved supervised exercise conditioning and outpatient diet counselling.

The Results

The patients were divided into two groups—high self-efficacy and low self-efficacy—based on their SEQ scores. The initial and final BMI and FIT results were then compared between the two subgroups. In the initial evaluation, those with high dietary self-efficacy had a significantly lower BMI when compared to the low dietary self-efficacy group (see Figure 1).

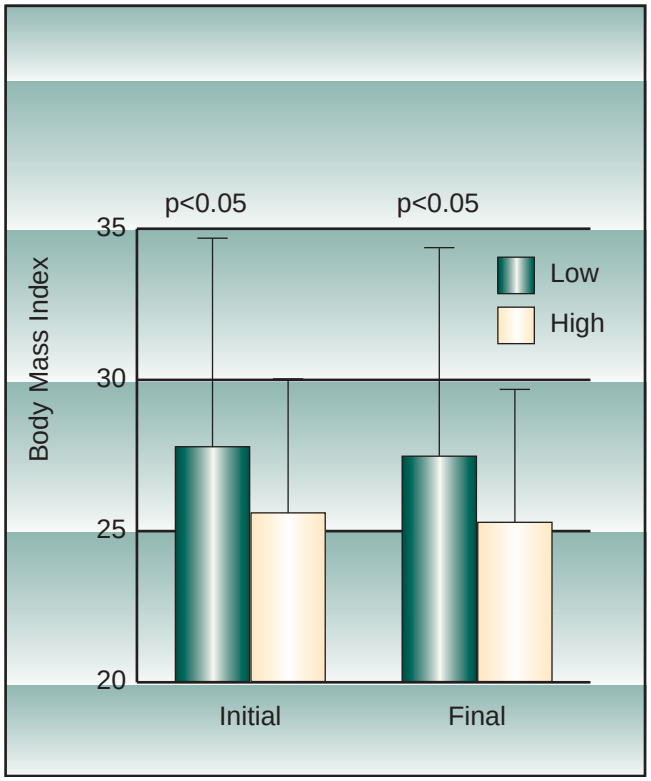


Figure 1. Initial *versus* final body mass index for patients with high and low dietary self-efficacy.

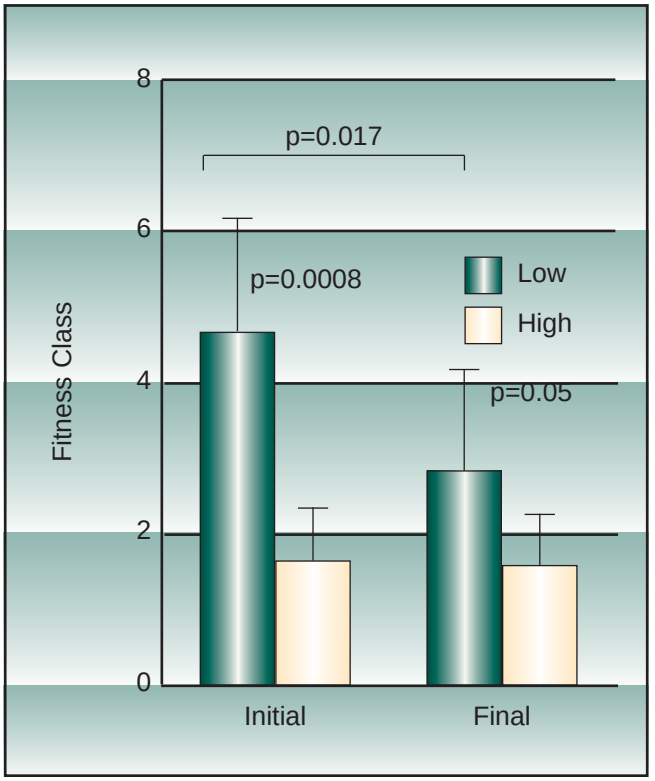


Figure 2. Initial *versus* final fitness classification for patients with high and low exercise self-efficacy.

There was no change in BMI in either group upon completion of the study.

Exercise self-efficacy was evaluated in patients with a negative stress test. Initially, those with high exercise self-efficacy were significantly more fit than those with a low exercise self-efficacy (see Figure 2). Those with a low exercise self-efficacy, however, showed significant improvement in fitness levels after cardiac rehabilitation, while those with high exercise self-efficacy did not show any change.

Conclusions

The UBC researchers were able to draw three conclusions based on these results. First, they determined that diet and exercise SEQ scores correlated with the initial BMI and FIT scores. This suggests these scores are useful in predicting behavior in an ambulatory setting.

Second, the researchers concluded that a supervised exercise program can improve the FIT score. This is especially true in subjects with low exercise self-efficacy.

Finally, the researchers concluded that dietary counseling in outpatients has only a minimal impact on BMI. This holds true regardless of dietary self-efficacy.

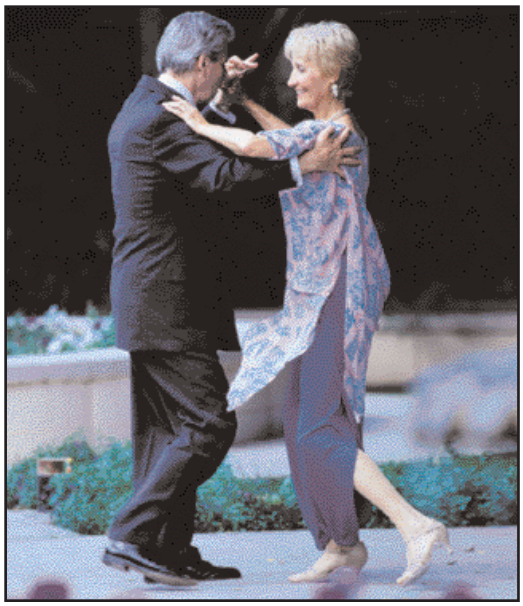
Chan S, Kingsbury K, Johnson F, et al: Relation between self-efficacy and diet/exercise adequacy in cardiac rehabilitation. Presented March 19, 2001, at the American College of Cardiology 50th Annual Scientific Session, Orlando, Florida..

Predictors of Quality of Life

After Myocardial Infarction

A patient's quality of life (QOL) is an important outcome measurement following hospital admission for acute myocardial infarction (AMI). The predictors of quality of life after AMI, however, are unknown, limiting the ability of physicians to adjust outcomes for pre-admission differences between patients.

Researchers from the Montreal General Hospital examined the effects of these differences. Their results were presented at the American College of Cardiology 50th Annual Scientific Session.



The Study

The researchers wanted to identify any clinical, demographic and psychosocial characteristics of patients at baseline that would be predictors of QOL six months and one year after AMI. To do so, they measured physical and mental QOL, using SF-36 Physical and Mental Component Summary scores, and overall QOL, using the EuroQol health perception scale. The patient cohort included 587 subjects admitted to 10 Quebec hospitals. A set of plausible multivariate linear regression models was created for each outcome measure using the Bayesian Information Criterion. The most clinically relevant model was selected for each outcome measure.

The Results

At baseline, the mean physical QOL score was 45 (SD 11), the mean mental QOL score was 47 (SD 11) and the mean overall QOL score was 70 (SD 21). By the end of the first year post-AMI, the mean QOL scores were similar to baseline—45 (SD 11) for physical, 48 (SD 11) for mental and 73 (SD 18) for overall QOL.

The predictors of physical, mental and overall QOL were similar at six months and at one year. In the case of physical QOL, the predictors at one year were the corresponding score at baseline, age and previous bypass surgery. The predictors of mental QOL at one year were the corresponding score at baseline and depression. Finally, the predictors of overall QOL at one year were the corresponding score at baseline and age (see Table 1). Depression also was a predictor of physical and overall QOL at six months. The researchers did not find any clinical characteristics related to the severity of AMI or treatments received in hospital which predicted QOL.

Conclusions

The decline in QOL was less than anticipated. The researchers found that age, QOL and depression level at baseline were the most important predictors of QOL at six months and one year after AMI. They found that other clinical characteristics and treatments received in hospital did not appear to have an effect on the patients' long-term perceptions of QOL.

Beck CA, Lauzon C, Joseph L, Pilote L, et al: Predictors of quality of life 6 months and 1 year after acute myocardial infarction. Presented March 18, 2001, at the American College of Cardiology 50th Annual Scientific Session, Orlando, Florida..

Table 1

ß Co-efficients for Significant QOL Predictors One Year Post-AMI

	ß Co-efficient	95% Confidence Interval
Physical QOL		
Baseline Score	5 (per 10-point difference in baseline score)	4 to 5
Age	-1 (per 10-year age difference)	-2 to 1
Previous Bypass Surgery	-5.3	-9.2 to -1.3
Mental QOL		
Baseline Score	3 (per 10-point difference in baseline score)	2 to 4
Depression	-3 (per 10-point difference in baseline score)	-5 to 2
Overall QOL		
Baseline Score	2 (per 10-point difference in baseline score)	1 to 3
Depression	-3 (per 10-point difference in baseline score)	-4 to -1