

## Effects of cardiac rehabilitation on quality of life and exercise capacity in patients with coronary artery disease: do women benefit equally?

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**Background:** Quality of life is an important factor in the etiology and prognosis of coronary artery disease (CAD) as well as to evaluate effects of different interventions in cardiovascular diseases. Improvement in quality of life (QOL) is an important goal for patients (pts) participating in cardiac rehabilitation (CR).

**Purpose:** To examine whether women and men benefit equally from comprehensive CR in terms of QOL and exercise tolerance in pts with CAD.

**Methods:** We enrolled 1362 CAD patients (mean age 60.4±9.5 years). All patients participated in a comprehensive three weeks CR program at residential center and in all pts before and after CR exercise test was performed. Psychological dimensions were assessed at baseline and post-CR by validated questionnaire Short-Form 36 Health Status Survey (SF-36). All data were analyzed based on gender.

**Results:** Women participate in CR in lower percentage than man: 336 (24.7%) women vs 1026 (75.3%) men. Out of 1362 CAD pts, SF-36 was performed in 119 pts (75.6% men and 23.5% women). Before CR, physical function (PF), fatigue (F) and social functioning (SF) were significantly higher in men than in women ( $P<0.001$ ;  $<0.05$  and  $<0.01$ ). After CR, scores of all domains of the SF-36 were significantly improved in all 119

pts ( $P<0.001$ ). However, compared to the baseline, and based on gender, women had greater improvement than men in PF: 36.6%vs 11.4%, physical limitation (PL): 119.6 vs 52.2%, emotional well-being (EWB): 12.9% vs 7.5%, SF: 23% vs 4.9%, body pain (BP): 16.4%vs 4.9%, F: 14.3%vs 10.9% and health change (HC): 34%vs 17.9%. At the end of stationary CR there was no significant difference in domains of the SF-36 between men and women. At baseline men had significantly higher level and duration of exercise test than women (both  $P<0.001$ ). After CR, level and duration of exercise test increased significantly in 1026 men ( by 12% and by 16.5%; both  $P<0.001$ ), and 336 women (by 18% and by 21%; both  $P<0.001$ ), and it was still higher in men than women after CR (both  $P<0.001$ ).

**Conclusions:** Study demonstrated that women are generally less participate in CR than men. Results indicated that CR improve QOL in CAD pts, especially in women, which was expressed through higher improvement in PF, PL, EWB, SF, BP, F and HC than in men. Those positive changes in QOL were associated with significant improvement in exercise capacity in men as well as in women. CR needs to improve in referral and participation of women.