Exercise Training in the Oldest Old

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Aim: Do the oldest old accrue benefit from cardiac rehabilitation programs?

Background: The oldest old ≥ 85 years is the most rapidly growing age group in western countries. Its growth rate is twice that of those 65 and over and almost 4 times that for the total population. It is also the least physically active, and the one that generates the highest healthcare expenses.

Material & Methods: 27 patients (13 m & 14 f), age range 85 - 94 years, period - 7/2008 to 1/2011, being 2% of the entire rehabilitation group. All other 1301 patients were considered control group (CG). 21 had previous myocardial infarction, 3 pacemaker implantation, 3 valve surgery, 20 coronary angiography, 3 cerebrovascular event, 2 hip fractures, 20 hypertensives, 14 diabetics, 3 with mild cognitive impairment, and 7 considered Frail / Very Frail. Each patient underwent a symptom limited EXT on admission & 12 weeks thereafter. Each participated in an ≥12 weeks program of strength, flexibility, balance, coordination (chair-based exercise for the ¡°frail¡±), and treadmill/bicycle/arm bicycle/cross trainer sessions for 30 min/3-4 /week, at 70-80% of their maximal HR. QOL questionnaire (modified EQ-5D-5L) for health status evaluation was used.

Results: Adherence time was 14 wks +/- 2.1 compared to 11.5 wks +/- 3.0 in CG , p <0.05, Ool baseline EXT Mets = 2.8 +/- 0.7 compared to 12 weeks EXT Mets = 4.1 +/- 0.7, p<0.01, (47%), Ool baseline Mets = 2.8+/-0.7 compared to 5.9+/-1.5 CG baseline, p<0.01, 12 weeks EXT Mets = 4.1+/-0.7 (Ool) vs 7.2+/-1.3 (CG), p<0.01. Total re-hospitalization rate was 11.1% in Ool compared to 3.9% in CG , p<0.01, while cardiac re-hospitalizations rates were 3.7% and 2.15% consecutively, p<0.01. Health status scale improved significantly 7+/-1.3 to 10+/-1.1, p<0.01 with maximal benefit seen in mood parameters (anxiety/depression).

Conclusions: Exercise training in the oldest old age group is feasible and relatively safe. Fitness and QOL gain can be achieved as well.