

## Long-term attendance and dropout rates in a phase 3 cardiovascular rehabilitation program: differences between men and women

M. Lemos Pires<sup>1</sup>, M. Borges<sup>1</sup>, G. De Sa<sup>1</sup>, M. Novakovic<sup>2</sup>, P. Alves Da Silva<sup>3</sup>, N. Cunha<sup>3</sup>, I. Ricardo<sup>3</sup>, F.J. Pinto<sup>4</sup>, R. Pinto<sup>1</sup>, X. Melo<sup>5</sup>, A. Abreu<sup>6</sup>

<sup>1</sup>Faculty of Medicine of the University of Lisbon, Cardiovascular Centre of the University of Lisbon (CCUL@RISE), Lisbon, Portugal

<sup>2</sup>University Medical Centre of Ljubljana, Department of Vascular Diseases, Ljubljana, Slovenia

<sup>3</sup>North Lisbon University Hospital Centre (CHULN), Department of Heart and Vessels, CCUL@RISE, Lisbon, Portugal

<sup>4</sup>Faculty of Medicine of the University of Lisbon, Department of Heart and Vessels, CHULN, CAML, CCUL@RISE, Lisbon, Portugal

<sup>5</sup>Egas Moniz School of Health and Science, Egas Moniz Center for Interdisciplinary Research (CiiEM), Almada, Portugal

<sup>6</sup>Faculty of Medicine of the University of Lisbon, Department of Heart and Vessels, CHULN, CAML, ISAMB, CCUL@RISE, Lisbon, Portugal

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**Background:** Women with cardiovascular disease (CVD) enrolled in phase II cardiac rehabilitation (CR) programs usually have lower attendance rates and a higher dropout rate than men. However, most CR studies are performed in short term duration programs and there is very few information regarding this topic in phase III long-term CR programs (>6-months). Thus, it becomes relevant to understand if these tendencies also occur in women attending long-term CR programs in order to optimize CR delivery.

**Purpose:** To compare long-term attendance and dropout rates between men and women enrolled for 12-months in a phase III CR program.

**Methods:** CVD patients attending a phase III CR program were included. For 12-months, attendance rates (sessions attended/sessions planned) and dropout rates (reasons and time of dropout) were registered. Social and demographic variables were collected (questionnaires). Before enrolment, appendicular muscle mass index (AMMI) was obtained from the ratio between appendicular skeletal muscle mass and height squared through dual x-ray absorptiometry. Chi-square and independent sample t test were used (or non-parametric alternative).

**Results:** One hundred and ninety-seven CVD patients enrolled a long-term phase III CR program (23.4% women, 61±10 years-old, 86.3% coronary artery disease, 82.2% attended phase II CR). Regarding dropout, between enrolment and 12-months, 17 of 46 women (37.0%) and 39 of 151 men (25.8%) dropped out of the phase III CR program [ $\chi^2$  (1, N=56)=2.146, p-value=0.143] with the main reason attributed to incompatibility of work schedule/CR sessions (men: 11.9% vs. women: 42.9%), followed by health-related issues (men: 6.62% vs women: 15.22%). The biggest dropout was between 0 and 3-months (men: 8.6% vs women: 13.0%) and between 6 and 12-months (men: 13.3% vs women: 17.4%). Furthermore, completing a phase II CR program was associated with attending for 1-year a phase III CR program [ $\chi^2$  (1, N=197)=6.252, p-value=0.012]. Women had lower attendance at 3-months (68.1±18.2% vs. 74.2±18.2%; p-value=0.003), 6-months (69.9±16.5% vs 60.2±17.6%, p-value=0.005) and at 12-months (57.5±19.9% vs 68.9±17.1%, p-value=0.002), compared to men. A subgroup analysis comparing women who completed 1-year of phase III CR and women who did not, demonstrated that being married [ $\chi^2$  (3, N=41) =12.881, p-value=0.005] and having a higher AMMI (6.38±1.04 vs 7.01±0.95; p-value=0.046) was associated with attending for 1-year the phase III CR program.

**Conclusion:** Our findings demonstrate that patients who complete a phase II CR program are more likely to attend for 12-months a phase III CR program. Additionally, women had lower attendance rates than men on the different stages of the CR program (3, 6 and 12 months). Further studies are needed to identify which clinical and demographic variables, based on initial program screening, can predict long-term attendance and dropout rates to better tailor and personalize future CR interventions.