

Intervention in Cardiac Rehabilitation: is exercise training effective in decompensated heart failure patients?

Bruno Delgado¹, André Novo², Maria Filomena Oliveira¹, Leonel Preto², Eugénia Mendes²

¹Oporto Hospital Center; ²School of Health, Polytechnic Institute of Bragança – Portugal



Keywords: heart failure, exercise, functional rehabilitation, functional capacity || andre@ipb.pt

INTRODUCTION

Heart failure is characterized, from a functional point of view, as a pathology that causes limitations in carrying out the activities of daily living and consequent loss of functional and instrumental autonomy due to its classic symptoms such as: dyspnea, edema, easy tiredness and intolerance to activity. These symptoms make the patient become increasingly dependent and searching for inactivity as a way to preserve energy and avoid those symptoms. It is known that exercise is beneficial and safe when applied according to the characteristics of the patient and his medical condition, even in the process of stabilization of the acute phase of its pathology.

OBJECTIVES

Identify the variables that enhance a better response to exercise in patients with heart failure in acute phase.
Realize that the performance of structured and supervised exercise in acute phase allows the patient to improve the resistance to exercise and improve functional capacity and performance of Daily Living Activities.
Identify health gains indicators arising from a rehabilitation program.

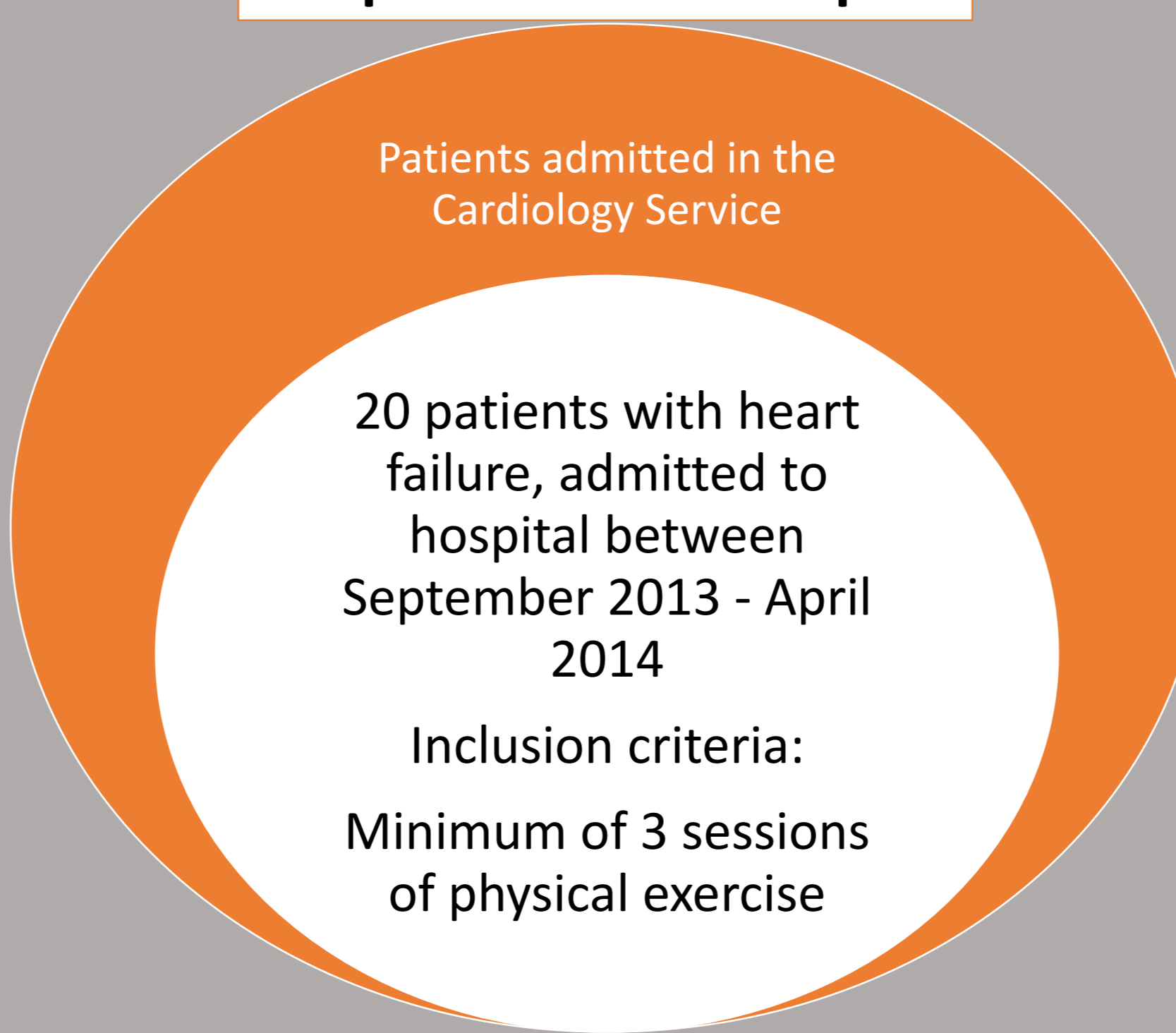
METHOD

Through the exploratory method, clinic and physiologic variables have been identified that could change with exercise and which allow a better response to exercise in the acute phase of the disease. Patients with decompensated heart failure of a cardiology ward were selected to comply with a minimum of 3 sessions of a program of physical exercise with increasing levels of intensity. Vital signs, Borg scale to subjective perception of effort and the London Chest Activity Daily Living (LCADL) scale for dyspnea associated with activities of daily living were assessed before and after the implementation of the program. Intensity and progression on the program were also evaluated by exercise parameters such as number of laps on the exercise peddler, number of meters walked and number of steps climbed.

RESULTS

20 patients were assessed, with mean age of 64.05±9.97 years. Data obtained showed a positive variation, meaning that patients improved their functional capacity along the program, despite being in acute phase of heart failure.

Population and sample



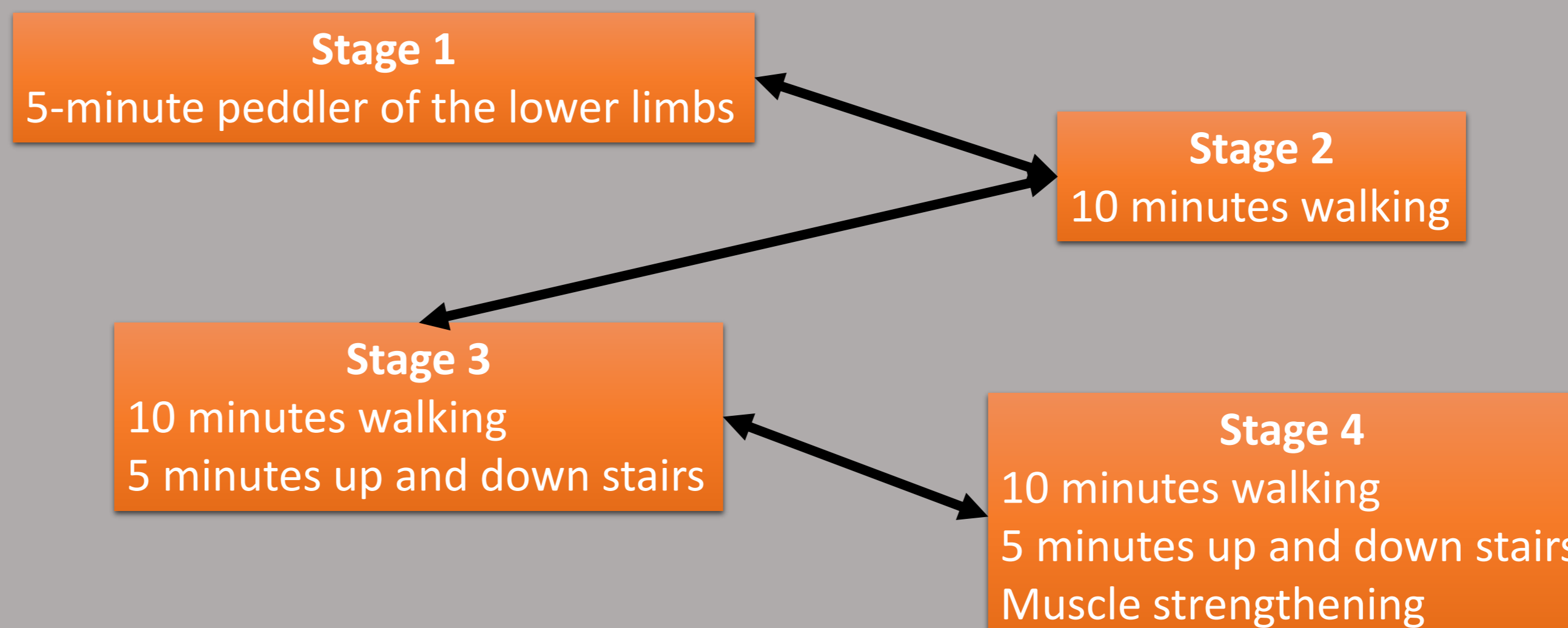
Physiological parameters

- Heart rate
- Blood pressure
- Perception exertion
- O₂ Saturation

Program execution parameters

- Number of laps in the peddler
- Number of steps
- Number of meters traveled
- Number of repetitions of strengthening exercises

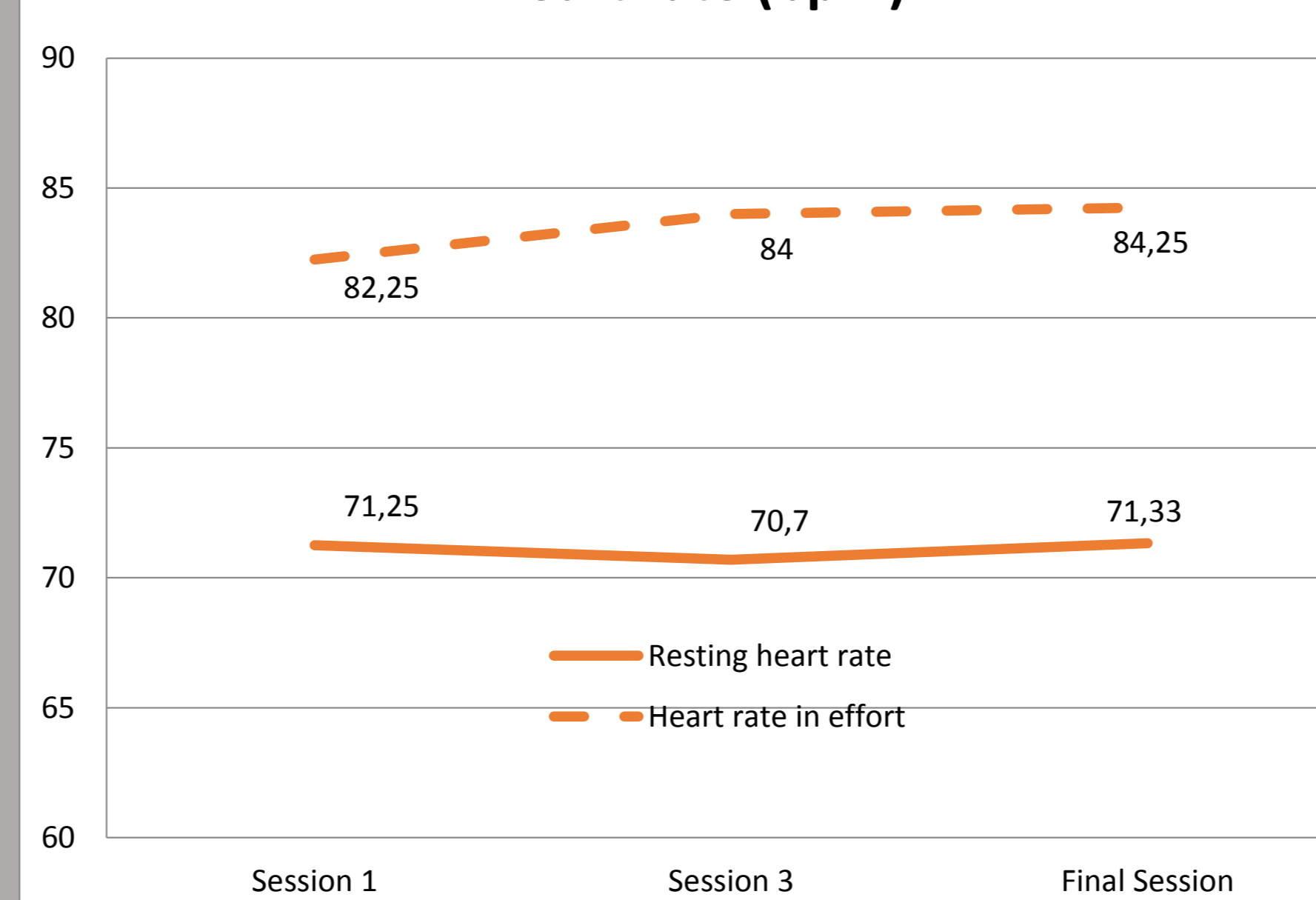
Program



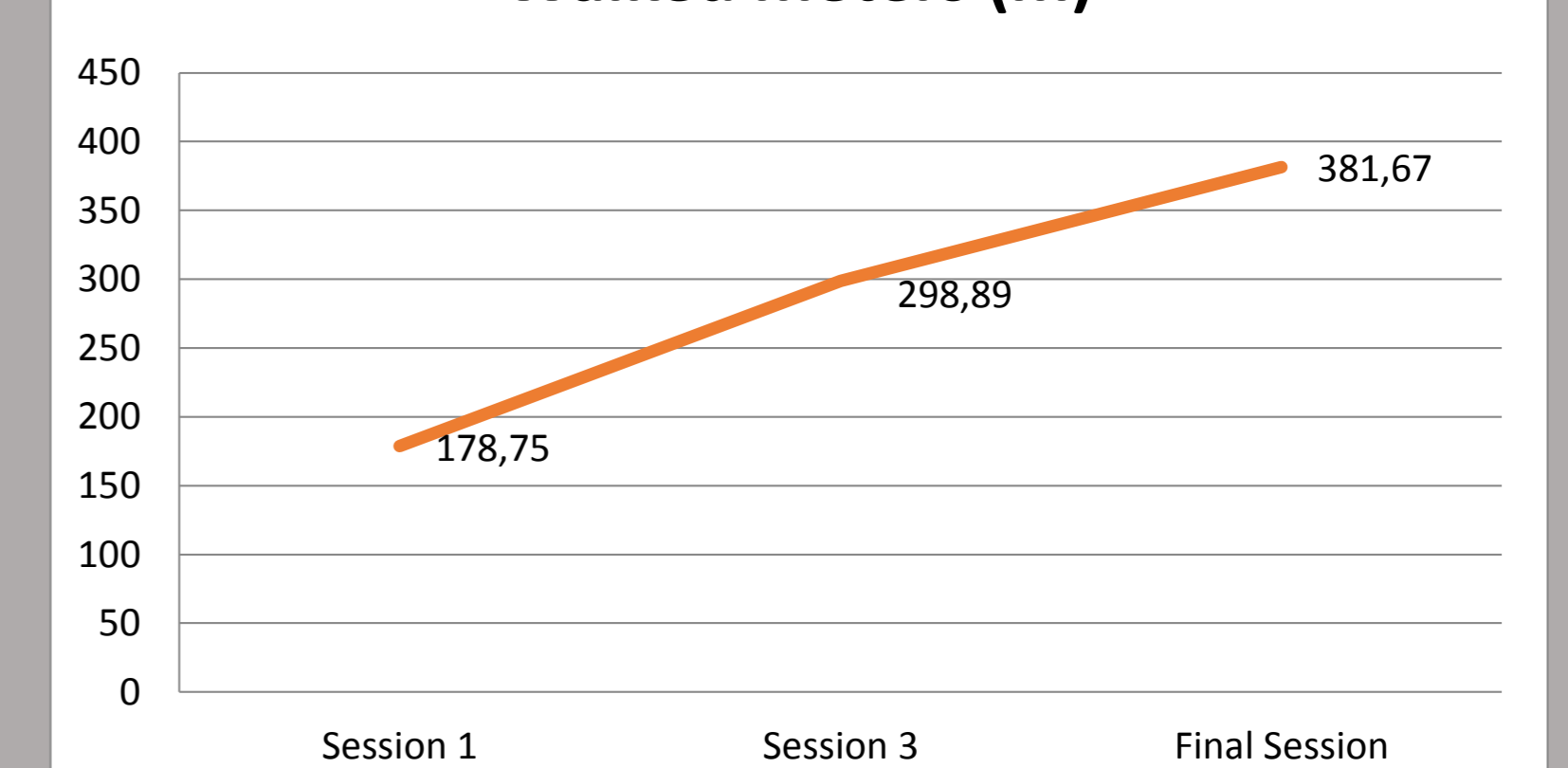
Ventricular Function

	N	%
Preserved ventricular function	4	20
Moderate depression of ventricular function	3	15
Severe depression of ventricular function	13	65
Total	20	100

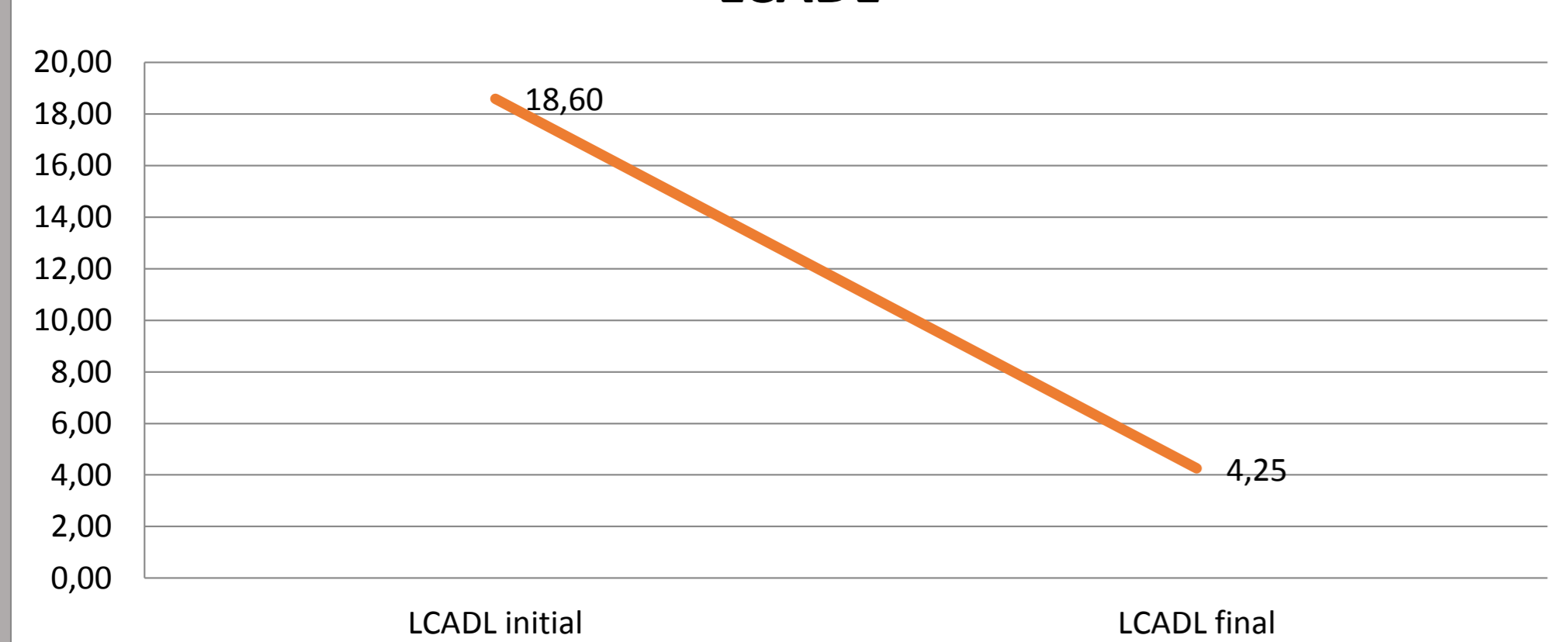
Heart rate (bpm)



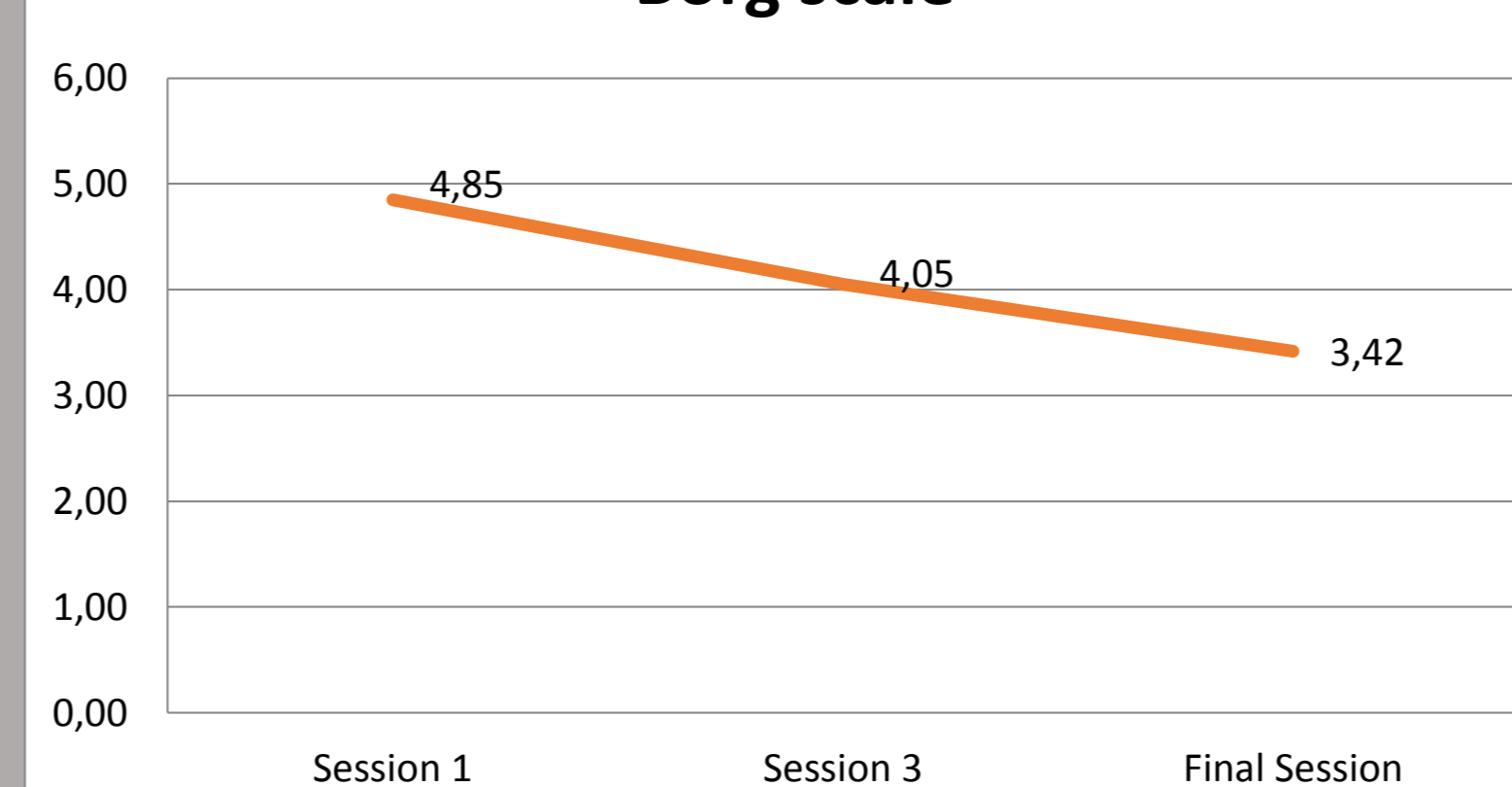
Walked meters (m)



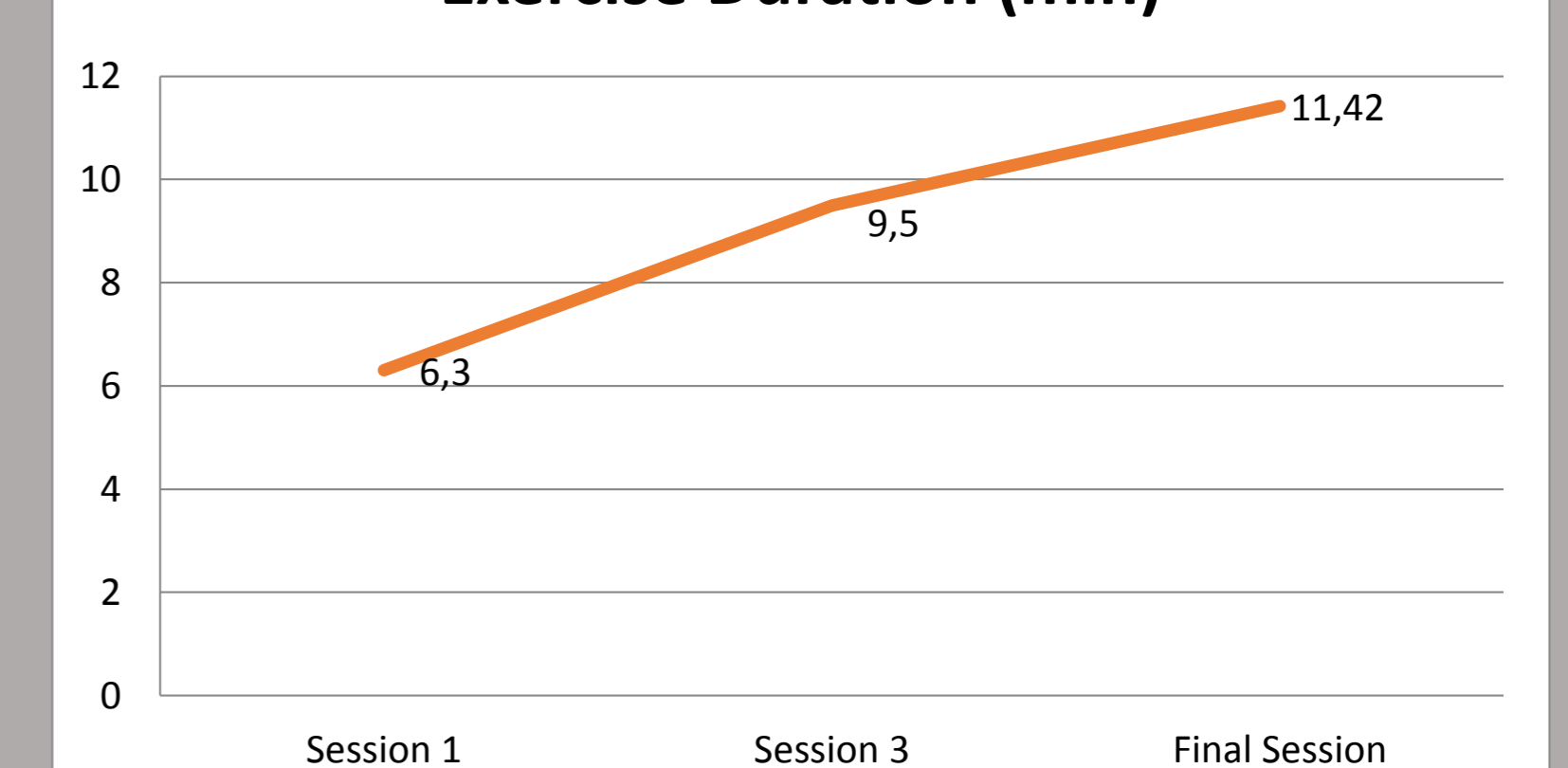
LCADL



Borg scale



Exercise Duration (min)



CONCLUSION

Descriptive and inferential statistics analysis of the data allows us to conclude that patients with previous practice of exercise, lower basal heart rate, higher oxygen saturation, lower number of associated cardiovascular risk factors presented a better response to the exercise and with a better evolution throughout the program.

REFERENCES

- ACSM. (2010). Guidelines for Exercise Testing and Prescription. Thompson & J. P. Wallace (Eds.).
- CNDC. (2009). Reabilitação Cardíaca: realidade nacional e recomendações clínicas.
- DGS. (2006). Programa Nacional de Prevenção e Controlo das Doenças Cardiovasculares. Lisboa.