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Increasing exercise capacity and quality of life of patients with heart failure through Wii gaming: the rationale, design and methodology of the HF-Wii study; a multicentre randomized controlled trial.

Jaarsma T[1], Klompstra L[1], Ben Gal T[2], Boyne J[3], Vellone E[4], Bäck M[5], Dickstein K[6], Fridlund B[7], Hoes A[8], Piepoli MF[9,10], Chialà O[4], Mårtensson J[7], Strömberg A[11,12].

Author information

Abstract

AIMS:

Exercise is known to be beneficial for patients with heart failure (HF), and these patients should therefore be routinely advised to exercise and to be or to become physically active. Despite the beneficial effects of exercise such as improved functional capacity and favourable clinical outcomes, the level of daily physical activity in most patients with HF is low. Exergaming may be a promising new approach to increase the physical activity of patients with HF at home. The aim of this study is to determine the effectiveness of the structured introduction and access to a Wii game computer in patients with HF to improve exercise capacity and level of daily physical activity, to decrease healthcare resource use, and to improve self-care and health-related quality of life.

METHODS AND RESULTS:

A multicentre randomized controlled study with two treatment groups will include 600 patients with HF. In each centre, patients will be randomized to either motivational support only (control) or structured access to a Wii game computer (Wii). Patients in the control group will receive advice on physical activity and will be contacted by four telephone calls. Patients in the Wii group also will receive advice on physical activity along with a Wii game computer, with instructions and training. The primary endpoint will be exercise capacity at 3 months as measured by the 6 min walk test. Secondary endpoints include exercise capacity at 6 and 12 months, level of daily physical activity, muscle function, health-related quality of life, and hospitalization or death during the 12 months follow-up.

CONCLUSION:

The HF-Wii study is a randomized study that will evaluate the effect of exergaming in patients with HF. The findings can be useful to healthcare professionals and improve our understanding of the potential role of exergaming in the treatment and management of patients with HF.