

# The associations between physical activity and appetite in patients with heart failure – a prospective observational study

Christina Andrae, Kristofer Franzén Årestedt, Lorraine Evangelista and Anna Strömberg

## Conference article

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**Title: The associations between physical activity and appetite in patients with heart failure – a prospective observational study**

**C. Andreae, K. Årestedt, L. Evangelista, A. Strömberg**

**Introduction:** Physical activity and appetite both play a crucial role for health outcomes and quality of life in patients with heart failure. Nevertheless, both of these key functions are frequently decreased in patients with heart failure. Whilst most attention focuses independently on the physical activity levels, the associations with appetite has been insufficiently investigated. The aim was therefore to explore the associations between physical activity and appetite in community dwelling heart failure patients.

**Methods:** This prospective observational study consisted of 186 patients with symptomatic heart failure of whom 56 (30%) were women and 130 (70%) were men. Mean age was 70.7 (SD=11 years), the majority had NYHA-class II, 114 (63%). Objective and subjective methods were used to measure physical activity include a wearable actigraph (SenceWear) for 4 days and six minutes' walk test. The actigraph calculate total energy expenditure, active energy expenditure, number of steps and METs daily average index. Patients also stated their physical activity level on a numeric rating scale. A self-reported questionnaire, the Council on Nutrition Appetite Questionnaire was used to assess appetite. Simple linear regression was conducted to explore the associations between physical activity and appetite at baseline and at 18-month follow-up.

**Results:** In general, the levels of physical activity in this sample was low and appetite was poor. There was a significant association between objective physical activity measures and appetite at baseline ranging between ( $p=<0.001-0.041$ ). The number of steps and walking distance had the strongest association, each explaining 6% and 7% of the total variance in

appetite. At the 18-month follow-up, all objective and subjective physical activity measures were associated with appetite ( $p=0.001-0.035$ ) with the number of steps being most strongly associated ( $p<0.001$ ) explaining 14% of the total variation in appetite.

**Conclusions:** Patients with heart failure who are more physically active experiences better appetite. These findings underscore the importance of placing greater attention on both physical activity and appetite in clinical practice as these factors has implications for patient's health outcomes. Further longitudinally oriented studies are needed to determine whether there is a causal relationship between physical activity and appetite in heart failure populations.

**Keywords:** Appetite, Heart Failure, Physical activity