

Reply Letter to **Recommended revisions to the article** **“Prehabilitation and heart failure”**

Dear Editor,

We would like to thank Nakao et al¹ for their interesting suggestion about our study². In our paper, we analyzed the role of physical activity and educational/counselling training – considered as a pre-rehabilitation (prehabilitation) treatment – in older adults with chronic heart failure³. A recent meta-analysis⁴ showed evidence about the positive impact of exercise training on Quality of Life (QoL) in aging, and this effect is particularly relevant when they are affected by chronic heart failure.

QoL represents the principal outcome of health interventions for the older adults. There are several studies investigating the association between QoL and drugs⁵, body composition⁶, physical performance⁷ in aging. However, little is known about the determinants of QoL in this fragile population⁸. For this reason, the dimension that we have decided to explore in our study is the self-perceived mental and physical health status assessed by the Mental Component Summary (MCS) and the Physical Component Summary (PCS) subscales derived from the Short Form-36 Health Survey (SF-36), as reported in methods section². SF-36 MCS showed a not statistically significant improvement in the study group, probably due to the small sample size. In the light of these results, we tried to analyze any changes in the Mini Mental State Examination (MMSE), a more specific test of cognitive status, before and after the treatment. The MMSE was only available for some patients, not being among the tests included in the battery of scales to be administered to the entire sample before and after rehabilitation treatment, as per the methodological section². As suggested by Nakao et al¹, the observed trend of improvement leads us to consider it for carrying out further studies.

Moreover, a systematic review and meta-analysis⁹ showed that nearly one fifth of frail older adults present with ischemic heart disease (IHD) and the same proportion of IHD elderly present with frailty. Thus, the condition of frailty can be properly considered as a significant predictor of cardiovascular diseases.

Lastly, the Six Minutes Walking Test (6MWT) represents the gold standard in assessing functional capacity of patients with heart failure¹⁰. Considering the individuals evaluated in our studied, the evolution of 6MWT at baseline and after the intervention showed an improvement², but the size of our sample does not allow data to reach a statistical significance. Moreover, 6MWT should be carefully used: it could be particularly useful in patients with severe heart failure, but it resulted less discriminating in patients with mild heart failure, so other measures should be considered in those case¹¹.

Due to the importance of the topic of prehabilitation, especially in older adults, and to the mutual relationship between motor and cognitive function, a larger sample and further studies, as recommended by authors^{1,2}, should be performed.

Conflict of interest

The authors declare that they have no conflict of interest.

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