



## Letter to the Editor

## Effects of nutrition and physical exercise intervention in palliative cancer patients: A randomized controlled trial

Dear Editor,

In response to the letter by Prof. F. Bozzetti we would like to answer as follows. In fact, the patients were in general not severely malnourished, however their condition was moderately to severely reduced according to the performance status (WHO). As Professor Bozzetti correctly stated, to form a control group with severely malnourished patients would ethically be impossible, because severely malnourished patients must be intensely treated by adequate nutrition. Moreover, the BMI in itself is not a reliable parameter for the assessment of the condition of a patient [1]. In our study we tried to define patients who would benefit from nutritional support. In a former study we showed that patients included late in their disease did not benefit from nutritional support in terms of survival or overall QoL [2]. Thus in the present trial we aimed at including the patients at an earlier stage, but even so we could not show a substantial difference between the control and verum group. However, the intervention in the verum group was superior to the controls for the patient-rated symptom scale regarding nausea and vomiting and protein intake, which could have positively influenced the quality of life. Importantly, we found a good adherence to the combined nutrition and exercise programme, which is encouraging for further clinical trials.

We fully agree with Prof. Bozzetti that our study should not be interpreted as negative and it does not show that nutritional support is ineffective in cancer patients with malnutrition. Rather, our findings should encourage other researchers to investigate such patients intensely and to identify specific patients' characteristics and interventions that will lead to a more profound effect than we found in the present study. In conclusion, the present study failed to show an improvement in overall QoL, which we believe, may well be caused by the small number of patients and the heterogeneity of the study population.

In response to the letter by Prof. M. C. Kizilarlanoglu we would like to answer as follows. We are aware that there might be a difference in measurements of physical performance, i.e. handgrip strength, 6-min walk, sit to stand and the delta in 1RM leg press. However, these findings were statistically not significant and due to the relative small number of patients included in the study, we were conservative in our interpretation. With a larger patient sample, these effects might well have ended up significantly, but this has to be shown in a future study. Moreover, we were not focusing on sarcopenia in the present study and unfortunately we are not in the position to re-analyze the data. However, in our next trial we plan to measure body composition by the more reliable computertomography-based exploration on level lumbar vertebra 3. A very minor comment: The study was not performed in a palliative care center but in our outpatient oncology clinic. Palliative implies that a curative treatment of the cancer would be impossible but further treatment might still be promising.

## References

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- [2] Uster Alexandra, Ruefenacht Ursula, Ruehlin Maya, Pless Miklos, Siano Marco, Ballmer PE, et al. Influence of a nutritional intervention on dietary intake and quality of life in cancer patients: a randomized controlled trial. *Nutrition* 2013;29:1342–9.

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