LETTER TO THE EDITOR

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EFFECT OF EARLY NUTRITIONAL FOLLOW-UP AFTER DISCHARGE ON ACTIVITIES OF DAILY LIVING IN MALNOURISHED, INDEPENDENT, GERIATRIC PATIENTS: ARE ACTIVITIES OF DAILY LIVING ONLY AFFECTED BY NUTRITION INTERVENTION?

Dear Editor,

In a recent study published in the *Journal of Nutrition Health and Aging*, Pedersen et al. (1) reported that an early nutritional follow-up after discharge prevents the deterioration of activities of daily living (ADL) in malnourished, independent, geriatric patients who live alone. This can be considered a particularly important finding because the study indicates the effectiveness of home visits with registered dietitians on ADL. However, several noteworthy concerns emerged as we read the publication.

First, the only causative disease requiring hospitalization reported in the study was a hip fracture. The decline in ADL and nutritional status has been reported in hospital-associated deconditioning because of cardiovascular, gastrointestinal, renal, and urological diseases (2). Furthermore, cancer (3) and stroke (4) can cause malnutrition. The etiology of adult malnutrition, such as the context of acute illness or injury, chronic illness, and social or environmental circumstances (5) can affect the functional outcome. However, we cannot understand the causes of the functional decline and malnutrition in the authors' study because only the hip fracture was reported. Therefore, other causative diseases requiring hospitalization, such as stroke and hospital-associated deconditioning should be described.

Second, the authors did not report the implementation of rehabilitation. In patients with a hip fracture, the combination of whey protein intake and rehabilitation has been reported to have a beneficial effect on the Barthel Index (BI) (6). The concept of rehabilitative nutrition as a combination of rehabilitation and management of nutritional care to maximize functionality can prevent the deterioration of ADL in patients with hip fractures and other diseases (7). Therefore, the benefit of early nutritional follow-up after discharge on ADL was uncertain in the absence of the description of rehabilitation. The type, frequency, and extent of rehabilitation, including physical, occupational, and speech therapy should have been described.

Third, the difference in the BI change between the home visit and control groups in the sample size calculation appears to be unsuitable. The authors previously assumed 10 points in the mean difference in change between the groups and

estimated that the study would require 48 participants in each group to detect a difference. However, in practice, there were only 2 points of median difference between the groups. In the study, the median BI during discharge from the hospital showed 82 points, which may improve to roughly 90 points at the end of the study. This is because the decline of ADL and mobility during hospitalization will improve at home following discharge from the hospital (8). Furthermore, the 10 point difference may not be appropriate in the groups with a high ADL score due to a ceiling effect of BI. We agree with the idea that a 10 point difference in BI should be regarded as a clinically relevant change. Moreover, we would suggest that the study should employ an uppermost BI limit (e.g., > 90 points in BI) when the participants were enrolled, if the authors wish to detect a difference.

If the authors could address these concerns and clarify their findings, it would be appreciated.

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