Journal of Nutrition Science Research

Buhl, J Nutr Sci Res 2022, 7:5

Mini Review Open Access

Relationship between Physical Frailty, Nutritional Risk Factors And Protein Intake In Community-Dwelling Older Adults

Susi Fris Buhl*

National Food Institute, Technical University of Denmark, Lyngby, Denmark

Abstract

Physical frailty is described as "a medical syndrome with various underlying causes and contributions marked by decreasing strength, endurance, and physiologic function that increases an individual's vulnerability for increasing dependency and/or mortality." Physical fragility is linked to early mortality, functional decline, increased risk of fractures and falls, hospitalization, poor quality of life, and disability. There isn't currently a single operational definition of physical frailty, but a number of assessment tools have been used, including the SHARE-FI75+, the Deficit Frailty Scale, and the Physical Frailty Phenotype [1,2]. The domains of weakness, slowness, low physical activity, low appetite and weight loss, and exhaustion/fatigue are frequently shared by these tools. Usually, a pre-frail condition with fewer domains is evident before physical frailty. In older persons living in the community, physical pre-frail and frail conditions are very common (41% and 10%, respectively), and prevalence rises with age. Demographic predictions predict an increase in the number of older adults in Europe (65 and older), along with a significant rise in the number of people aged 80 and beyond. As a result, the prevalence of physical pre-frailty and frailty may rise in tandem with the growing older population [3].

Malnutrition is described as "a state resulting from lack of intake or uptake of nutrition that leads to altered body composition (decreased fat free mass) and body cell mass leading to diminished physical and mental function and impaired clinical outcome from disease" and is thought to be one of the main risk factors linked to physical frailty. Physical frailty is categorized as a nutrition-related condition by the European Society for Clinical Nutrition and Metabolism, or ESPEN. Depending on the criteria or screening procedures used, the incidence of malnutrition in community-dwelling older individuals ranges from 4.6% to 17.2%. Reduced appetite, unintentional weight loss, poor dental health, dysphagia, low and high Body Mass Index (BMI), and recent illness are significant risk factors for malnutrition. Similar to physical frailty, the risk of malnutrition rises with age in community-dwelling adults, and many very old adults (80 years or older) are at risk [4].

Malnutrition and physical fragility have a complicated relationship. Results from cross-sectional studies and prospective cohorts have shown that reduced protein intake is related with a decreased risk of frailty, while malnutrition and risk of malnutrition (assessed by nutritional screening methods) are associated with physical frailty. Despite the connection between physical frailty and malnutrition that has been shown, it has recently been determined that more research is required to fully understand which nutritional risk factors are connected to physical frailty in independent community-dwelling adults. This is very important because physical frailty may be reversible, and if modifiable risk factors are discovered early on, functional deterioration associated with physical frailty may be avoided. Therefore, it is advised to use efficient screening techniques to identify physical frailty risk early on and the risk factors that go along with it. In order to identify risk factors for physical frailty early, large-scale screening strategies should be I straightforward and simple to administer by health care professionals with different educational backgrounds, ii) time-effective as multiple topics are covered in a condensed amount of time, and iii) non-invasive and not reliant on specialized equipment [5-7].

Keywords: High protein intake; Liver transplantation; Postoperative complications; Enteral nutrition; Oral nutrition supplements; Modified feed; Fortification; Nutrition; Dietary energy; Pediatric critical care

Description

Patients undergoing liver transplantation (LT) are more likely to develop infections and die after the transplant if they are malnourished and sarcopenic. Prior studies have shown that early enteral nutrition (EN) following liver transplant (LT) is related with fewer viral infections. Malnutrition and eating disorders are common in liver transplant candidates [8-10]. In order to lower the risk of infections soon after transplantation, the European Society for Clinical Nutrition and Metabolism (ESPEN) and European Association for the Study of Liver Disease (EASL) advise that after LT, normal food and/or EN should be introduced within 12 to 24 hours. According to a recent study on energy balance in LT recipients, between days 7 and 10 after liver transplantation, 77.8% of measured energy requirements were satisfied. However, only 6.9% had complementary EN to support energy intake [11].

Two risk indicators for continued deterioration of patients' nutritional health after LT include negative energy balance and protein balance. Therefore, it is crucial to provide adequate nutritional support in the initial stages following LT, even if it is unknown how many calories

***Corresponding author:** Susi Fris Buhl, National Food Institute, Technical University of Denmark, Lyngby, Denmark, Tel: 451835027495, E-mail: susibuhl@health.sdu.dk

Received: 30-Aug-2022, Manuscript No: snt-22-81227, **Editor Assigned:** 02-Sep-2022, Pre QC No: snt-22-81227(PQ), **Reviewed:** 16-Sep-2022, QC No: snt-22-81227, **Revised:** 23-Sep-2022, Manuscript No: snt-22-81227(R), **Published:** 30-Sep-2022, DOI: 10.4172/snt.1000177

Citation: Buhl SF (2022) Relationship between Physical Frailty, Nutritional Risk Factors And Protein Intake In Community-Dwelling Older Adults. J Nutr Sci Res 7: 177.

are needed to reap the greatest benefits. The current recommendation to aim for an increased provision of protein or amino acids during rehabilitation after surgery stems from the significant nitrogen loss that occurs during the first 30 days postoperatively. It is advised by ESPEN to set the protein requirement for postoperative rehabilitation at 1.5 g/kg body weight every 24 hours. 24 hours after a liver transplant, liver-specific guidelines advise consuming 1.2 to 1.5 g of protein/kg of body weight [12]. Despite the biological validity of such a suggestion, there aren't enough studies to support the notion that consuming more protein as a percentage of total calories is advantageous.

Conclusion

According to the results of this study, it is possible to increase protein supply while keeping energy levels the same in the first seven days following LT. Early after LT, a higher protein intake was obtained using a dietary strategy that included a higher rate of EN and high-protein ONS (pB). The key conclusions of the current study highlight the potential for increasing protein consumption in hospitalised patients by combining EN, protein-rich ONS, and meals. Future randomised controlled studies comparing certain nutritional regimens can use the study's findings as a starting point.

Acknowledgement

None

Conflict of Interest

None

References

1. Morley JE, Vellas B, van Kan GA, Anker SD, Bauer JM, et al. (2013) Frailty consensus: a call to action.J Am Med Dir Assoc 14: 392-397.
2. Dent E, Morley JE, Cruz-Jentoft AJ, Woodhouse L, Rodríguez-Mañas L, et al. (2019) Physical frailty: ICFSR international clinical practice guidelines for identification and management.J Nutr Health Aging 23:771-787.
3. Kojima G, Iliffe S, Jivraj S, Walters K(2016) Association between frailty and quality of life among community-dwelling older people: a systematic review and meta-analysis.J Epidemiol Community Health, 70:716-772.
4. Dent E, Martin FC, Bergman H, Woo J, Romero-Ortuno R, Walston JD (2019) Management of frailty: opportunities, challenges, and future directions. Lancet 394:1376-1386.
5. Kojima G (2017) Frailty as a predictor of disabilities among community-dwelling older people: a systematic review and meta-analysis. Disabil Rehabil 39: 1897-1908.
6. Buta BJ, Walston JD, Godino JG, Park M, Kalyani RR, et al. (2016) Frailty assessment instruments: systematic characterization of the uses and contexts of highly-cited instruments. Ageing Res Rev 26: 53-61.
7. Fried LP, Tangen CM, Walston J, Newman AB, Hirsch C, et al. (2001) Frailty in older adults: evidence for a phenotype. J Gerontol A Biol Sci Med Sci 56: M146-M156.
8. Romero-Ortuno R, Soraghan C(2014) A frailty instrument for primary care for those aged 75 years or more: findings from the survey of health, ageing and retirement in Europe, a longitudinal population-based cohort study (SHARE-FI75+).BMJ Open. 4.Article e006645.
9. O'Caoimh R, Galluzzo L, Rodríguez-Laso A, Van der Heyden J, Ranhoff AH, et al. (2018) Prevalence of frailty at population level in European ADVANTAGE Joint Action Member States: a systematic review and meta-analysis. Ann Ist Super Sanita 54:226-238.
10. Collard RM, Boter H, Schoevers RA, Oude Voshaar RC (2012) Prevalence of frailty in community-dwelling older persons: a systematic review. J Am Geriatr Soc 60:1487-1492.
11. Ye L, Elstgeest LEM, Zhang X, Alhambra-Borrás T, Tan SS, et al. (2021) Factors associated with physical, psychological and social frailty among community-dwelling older persons in Europe: a cross-sectional study of Urban Health Centres Europe (UHCE). BMC Geriatr 21:422.
12. Song X, Mitnitski A, Rockwood K (2010) Prevalence and 10-year outcomes of frailty in older adults in relation to deficit accumulation. J Am Geriatr Soc 58:681-687.