Read & Watch: Lecture Summary

Dr. Mary D. Litchford PhD, RDN, LDN

President of CASE Software & Books. Past President, NPIAP, Greensboro, North Carolina, USA

The Role of Proteins in Preventing Protein Malnutrition and Sarcopenia, in Dysphagic Patients

Speaker biography

Dr. Mary Litchford, PhD, RDN, LDN is an internationally recognized speaker, author, and consultant to healthcare organizations. She hold a PhD in human nutrition from the University of North Carolina-Greensboro. She is president of CASE Software & Books, a professional and educational resource company.

She is Past President of the National Pressure Injury Advisory Panel and served as one of the NPIAP representatives on the International Clinical Practice Guideline Governance Group. She has received numerous lifetime achievement awards including the JoAnn Maklebust Life Time Achievement Award and Excellence in Consultation & Business Practice Award from the Academy of Nutrition & Dietetics.

Her professional career has included clinical practice, university research and teaching, writing advanced level professional education on nutrition assessment and medical nutrition therapy for adults and elders. Her most recent publications include, *Nutrition Focused Physical Exam and Laboratory Assessment of Nutritional Status* professional reference book and textbook chapters on drug-nutrient interactions and clinical assessment of biochemical and functional status. Dr Litchford is well-known for her ability to translate nutrition science into real world solutions for practitioners and patients.

Nestlé HealthScience

Abstract

Nutrition and health care closely related. More than 50% of adults worldwide have one or more nutrition-related chronic conditions related to poor quality eating patterns and insufficient physical activity. The Global Burden of Disease Study reported that poor diet was linked to more than 11 million deaths in 2017. Poor diet is detrimental to the health of adults with plentiful healthcare resources and those with limited healthcare resources.

The trajectory of declining nutritional status has an insidious onset with changes in appetite that lead to declining functional status, followed by impaired nutrient utilization resulting in malnutrition. Malnutrition is the lack of adequate macro and micronutrients resulting from not enough food, unbalanced diet, impaired nutrient absorption/digestion, or excreting nutrients more rapidly than it is possible to replace them. The physical and financial costs of declining nutrition status may lead to spending tradeoffs, higher health care costs and the need for higher level care services.

Malnutrition and nutrient deficiencies are often overlooked or misdiagnosed. The etiology of malnutrition may be due to acute illness, chronic illness or environmental factors. It often develops during in-patient health care stays. The risk of or presence of malnutrition is reported in up to 80% of hospitalized older adults.

The trajectory of declining status can be accelerated with an unexpected change in medical status that leads to worsening nutritional and functional status. Malnutrition results in micro and micronutrient deficiencies leading to compromised body processes. Negative energy balance results in muscle mass being used for energy and reserves are depleted. Moreover, malnutrition results in more fatigue, frailty, lower physical activity, loss of muscle mass and strength including the muscles of mastication and tongue pressure.

While the cycle of declining nutritional status may have begun, the trajectory of decline can be redirected with client-centered preventive care. Malnutrition is a modifiable factor in declining health status. Nutrition interventions for client-centered care include:

- Screen all patients for malnutrition using a validated screening tool.
- Screen all older patients for frailty and sarcopenia using a validated screening tool.
- Screen or refer all patients who have indicators of a swallowing problem to swallowing therapist.
- Refer all patients at risk of or with malnutrition to a nutrition professional for individualized nutrition assessment. Use accepted criteria to define malnutrition (ASPEN or GLIM).
- Estimate energy requirements (indirect calorimetry preferred).
- Focus on food first. Provide 1.0-1.2 g high quality protein /kg body weight distributed at 25-30 g/ 3 times or meals/day.
- Encourage leucine-rich foods at every meal. (2.5-3.0 g/meal)
- Fortify meals with complete modular protein products or offer oral nutritional

supplements between meals.

- Provide supplemental micronutrients if deficiencies are suspected or confirmed.
- Provide food and beverage consistency appropriate for the patient.
- Collaborate with the client to establish SMART goals to achieve nutrition and fitness goals.
- Collaborate with swallowing therapist and fitness professionals on client progress and modify plan as needed.

Sarcopenia and dysphagia are common consequences of declining nutritional status. Preventive care to address declining nutritional status is essential to redirect the trajectory of decline leading to sarcopenic dysphagia.

References

1. GBD 2017 Diet Collaborators. Health effects of dietary risks in 195 countries, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. The Lancet. 3 April 2019

2. Grattagliano I, et al. The assessment of the nutritional status predicts the long term risk of major events in older individuals Eur Geriatr Med. 2017;8:273-274.

3. Huppertz, van der Putten, Halfens,et al. Association Between Malnutrition and Oral Health in Dutch Nursing Home Residents: Results of the LPZ Study.JAMDA.2017.18.11.948-954

4. Kaiser MJ, et al. Frequency of Malnutrition in Older Adults: A Multinational Perspective Using the Mini Nutritional Assessment J Am Geriatr Soc. 2010;58:1734-1738.

5. O'Shea E, et al. Malnutrition in hospitalised older adults: A multicentre observational study of prevalence, associations and outcomes J Nutr Health Aging. 2017;21(7):830-836.

6. Sauer A, Goats S, Malone A et al. Prevalence of Malnutrition Risk and the Impact of Nutrition Risk on Hospital Outcomes: Results From nutritionDay in the U.S. Journal of Parenteral and Enteral Nutrition. JPEN 2019; 43(7): 918–926.

7. Tobert CM, et al. Malnutrition Diagnosis during Adult Inpatient Hospitalizations: Analysis of a Multi-Institutional Collaborative Database of Academic Medical Centers. J Acad Nutr Diet. 2018;118(1):125-131.

8. Institute of Medicine. 2005. Dietary Reference Intakes for Energy, Carbohydrate, Fiber, Fat, Fatty Acids, Cholesterol, Protein, and Amino Acids. Washington, DC: The National Academies Press. https://doi.org/10.17226/10490

9. Pellett PL. Protein-Energy Interactions. Scrimshaw eds. International Dietary Energy Consultative Group (IDECG), Lausanne, Switzerland. 81-121, in Food and Nutrition Bulletin Volume 17, Number 3, 1996 (UNU, 1996, 104 p.)

10. Dominguez, L., & Barbagallo, M. (2017). The multidomain nature of malnutrition in older persons. JAMDA, 18(11), 908-912.

11. Litchford, MD. Counteracting the Trajectory of Frailty and Sarcopenia in Older Adults. Nutr Clin Prac. Aug 2014 29:428-434.

12. Kortebein,P , et al Effect of 10 Days of Bed Rest on Skeletal Muscle in Healthy Older Adults. JAMA 2007;297.1772-4

13. Reisinger,K et al. Functional Compromise Reflected by Sarcopenia, Frailty, and Nutritional Depletion Predicts Adverse Postoperative Outcome After Colorectal Cancer Surgery. Annals of Surgery 2015.261.2.345-54.

14. Fujishima I, et al (2019) Sarcopenia and dysphagia: Position paper by four professional organizations. Geriatr Gerontol Int 19:91-97

15. Mamerow MM, Mettler JA, English KL, et al. Dietary protein distribution positively influences 24-h muscle protein synthesis in healthy adults. J Nutr. 2014 Jun;144(6):876-80

16. WHO/FAO/UNU (2007) Protein and Amino Acid Requirements in Human Nutrition; Report of a joint WHO/FAO/UNU Expert Consultation, WHO Tech Rep Ser no. 935. Geneva: WHO.

17. Yanai H. Nutrition for Sarcopenia. J Clin Med Res.2015;7(12):926-931. doi:10.14740/jocmr2361w

Nestlé HealthScience

Watch the 25 minute conference talk with Dr. Litchford and hear about THE RELATIONSHIPS BETWEEN PROTEIN MALNUTRITION AND SARCOPENIA IN PATIENTS WITH DYSPHAGIA, AND HOW IT CAN BE REDIRECTED WITH A PATIENT-CENTERED NUTRITIONAL INTERVENTION.

https://www.youtube.com/watch?v=8K2CfrGQ_wg

Interview with Dr. Mary D. Litchford and find answers about:

1) How does dysphagia lead to malnutrition?

2) How does malnutrition affect food intake and swallowing?

3) How many quantities of protein an adult and older adult should be taken daily? Do these quantities of protein change in people with dysphagia?

4) What does good quality protein mean?

5) How do you nutritionally intervene or help a patient with dysphagia? And, what is the role of Oral Nutritional Supplements?

https://www.youtube.com/watch?v=dQhNknXqcRo

Nestlé HealthScience

Communication for Heatlhcare professionals only.