VERY LOW DIETARY PROTEIN INTAKE & FALLS RISK IN OLDER ADULTS

Featuring :: Mary Beth Arensberg, PhD, RDN, LD, FADA

TRANSCRIPT

Maura: Hi, I'm Maura Bowen, podcasting for Abbott Nutrition Health Institute, and today, we’re talking about the power of protein and its impact on falls.

Maura: It’s no secret muscle strength can deteriorate as we age. According to AARP—the American Association of Retired Persons—people lose, on average, about 30 percent of their muscle power between the ages of 50 and 70, making it harder to stay active and healthy. In fact, the more muscle you lose, the more likely it is you might fall and sustain an injury, or wrestle with heart disease or frailty—all of which just make it harder to preserve your independence.

Maura: That’s why I’m speaking today with Mary Beth Arensberg, Director of Abbott Nutrition Health Policy & Programs out of Columbus, Ohio. Mary Beth and a few of her peers conducted a study recently that focused on the role low dietary protein intake can play in predicting subsequent falls in older adults.2 The team’s findings supported their hypothesis, which we’ll get into in a moment.

Maura: But first: Welcome Mary Beth, and thanks for being with us today. Ready to get started?

Maura: Before you and your team conducted your study on low protein intake and falling, what had been some of the emerging evidence on the role of muscle strength in fall prevention?

Dr Arensberg: Thank you, Maura. In community-living older adults, often low muscle mass and low muscle strength have been associated with higher risk of falls. Intervention studies have shown that improving muscle mass and strength in older adults that are living in the community can reduce the risk of falls.

Maura: What prompted your study?

Dr Arensberg: In addition to muscle mass and strength, there are other factors that contribute to an older adult’s risk for falls—including modifiable factors like nutrition status. We’ve seen that research supports a positive association between malnutrition and the risk of falls. However, demonstrated links between malnutrition-related nutrients, such as protein, and falls have not been as firmly established. In fact, only a few studies have specifically considered dietary protein intake and falls, even as we know that many older Americans consume less than the US Recommended Dietary Allowance (RDA) for protein.

Maura: You evaluated data from a large data set as part of the US Health & Retirement Study. Can you tell us about this data set and the population?

Dr Arensberg: Certainly. The US Health & Retirement Study—or the HRS, as it is frequently called—is run by the University of Michigan and supported by both the National Institute on Aging and the Social Security Administration.

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Dr Arensberg: Every other year, a representative sample of about 20,000 Americans that are older adults is surveyed, and they collect data on health, retirement, disability, resources, and family supports. In off years, they collect different types of data, including information on nutrition, disability, and their life history. For example, in 2013, they conducted a Health Care and Nutrition Study. The HRS is now in its 25th year, and one of the things that is unique about this survey is that it is longitudinal, meaning that it provides the opportunity to track the same older adults over time—so it’s really quite a huge dataset.

Dr Arensberg: Our study criteria helped narrow down that amount of data we needed to analyze. First, we wanted recent data—so we focused in on the two most recent HRS surveys: 2012 & 2014 survey. Next, we wanted to consider those individuals who had reported falling—and this question was only asked of those that were aged 65 years or older. Finally, we wanted to identify those folks who reported in 2012 that they had fallen in the previous year. And then of those who reported falling, we then narrowed down the study population to those who completed the HCNS—that’s the Health Care and Nutrition Study—in 2013, and then also completed the HRS in 2014. So we looked at those people who had reported falling in 2012, those that had completed the nutrition survey in 2013, and those that had also completed the HRS survey in 2014. With those as our criteria, this gave us a total population of size of 3859 older adults.

Maura: Did you face any challenges in your research? What went more smoothly than you expected it to?

Dr Arensberg: Our research was a retrospective study using data from this large ongoing study. So, one of the good things is we didn’t have the challenge that other researchers may face, when they are conducting prospective studies and they need to ensure they have adequate enrollees or enough patients to collect adequate data. Since ours was a retrospective survey, we did not have that challenge.

Maura: What did you expect to find in the data?

Dr Arensberg: Based on previous research we did anticipate finding a relationship between lower protein intake and people reporting a subsequent fall. What was interesting was that in this particular dataset, a relationship was not identified until we specifically focused on those with a very low protein intake, < 0.4 gm/kg/day, which is less than half of the US RDA.

Maura: What did the data actually show?

Dr Arensberg: Our research showed that the incidence of reporting a subsequent fall was 13% greater among older adults with very low protein intake, compared to those with a higher protein intake.

Maura: What conclusions did the research team draw from this data, then?

Dr Arensberg: The association between protein intake and falls risks in older adults has not been widely studied, as we talked about previously. But our research documented that a very low protein intake (<0.4 gm/kg/day) may be a risk factor for predicting future falls in older adults that had a history of falling.

Maura: Did anything surprise you about these findings?

Dr Arensberg: Our research also documented a low Vitamin D intake was associated with a subsequent fall. Previous research on Vitamin D and falls risk has reported varying results and recently the US Preventive Services Task Force concluded that Vitamin D supplementation did not prevent older adult falls. Part of the difference in terms of what we saw may be that our research population was limited to those who had previously reported a fall.

Maura: With all of that said, then, what learnings from this study can or should clinicians apply to their practice?
Dr Arensberg: Preventive screening for very low/low protein intake among older adults with a history of falling may help actually identify those who could benefit most from specific nutrition interventions, including things like community nutrition programs, referral to a registered dietitian nutritionist, and/or oral nutrition supplements.

Maura: What makes you feel hopeful about the things your team found?

Dr Arensberg: Education programs and policies focused on increasing dietary protein for older adults who fall may help improve public health outcomes by reducing the risk for future falls.

Maura: Can you think of any additional research that should be done that could be helpful in this space?

Dr Arensberg: Protein is a key nutrient; it really influences nearly every body system and therefore is critical for maintaining health and for older adults, maintaining their quality of life. Previous research has identified a protective association between protein intake and falls in older adults, particularly those with unintentional weight loss. Our research also identified that weight loss of at least 10 pounds since the last survey was associated with a subsequent fall. So, perhaps future research on the impact of low/very low protein intake and weight loss on falls risk could be beneficial in helping to target those older adults at high risk for falls and who may most benefit from nutrition interventions.

Maura: Great—thank you so much for your time today, Mary Beth. I really appreciate it, and we look forward to sharing this out to our ANHI members. Have a great day...

1CDC 2016; Florence et al 2018; Bloom et al 2018; Yang et al 2018
2Low Dietary Protein Intake Predicts Falls in Older Adults with History of Falls; May 2019; Marika Paul, Mary Beth Arensberg, Jamie Partridge, Satya Jonnalagadda, Suzette Pereira, Judy Simon; Abbott Nutrition, Columbus, OH