

A Partitioner's Guide to Reducing Malnutrition in Long Term Care Facilities.

Marina Boknecht, RD LRD CNP; Advisor: Anne Bodensteiner, Ph.D. RDN LRD NBC-HWC

Introduction

- Older Americans are predisposed to becoming malnourished.
- 66.5% of older Americans in long term care facilities are malnourished.
- Approach malnutrition with an individualized nutrition intervention approach
 - Nutrition interventions based on the individual's needs and preferences
 - Improves compliance with the interventions

Objective

- This literature review identified six key themes in which the individualized nutrition intervention approach can be targeted.
 1. Providing education
 2. Providing encouragement
 3. Providing condiments
 4. Improving food quality and variety
 5. Increasing social interaction
 6. Improving the eating environment

Methods

- Published studies were searched in PubMed, Science Direct, CINAHL, and Clinical Key from 2013 to 2023.
- Key search terms included malnutrition, undernutrition, long term care, nursing homes, geriatric, older adults, elderly, residents, food fortification, meal interventions, nutrition interventions, food enrichment, cost effectiveness, implementation, and institutional factors.

Resident Interventions

- **Education**
 - Assess the resident's readiness to change
 - Improve the resident's understanding of an inadequate diet, the nutritional needs of the elderly, and increase awareness of malnutrition and its consequences.
- **Encouragement**
 - Increase the resident's compliance and motivation with the interventions.
 - Maintain the resident's current eating habits by fortifying food and obtaining preferences.

Menu Interventions

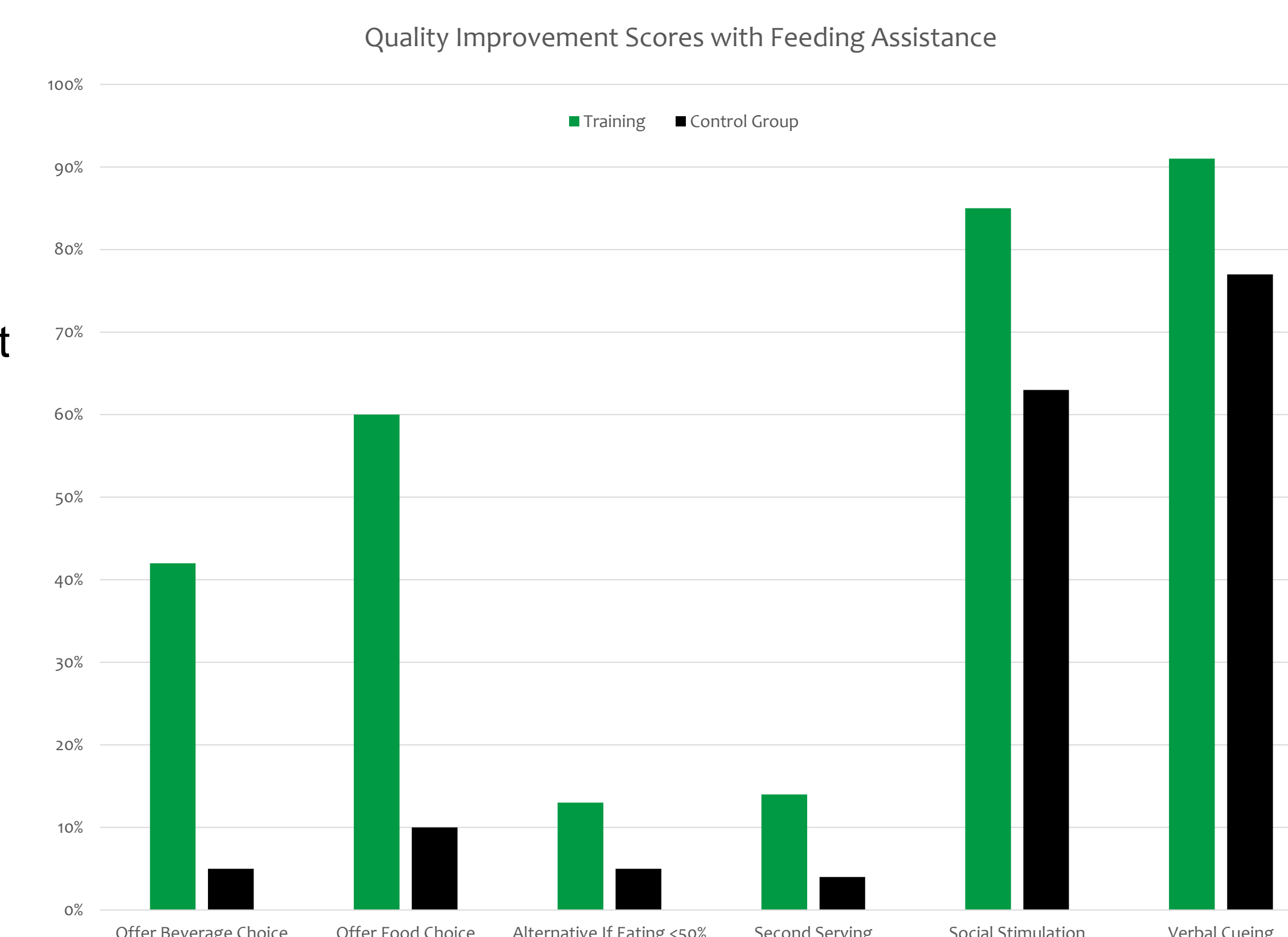
- **Condiments and garnishes**
 - Provide a variety of condiments at the dining table to maintain residents' autonomy
 - Increases food and energy intake
 - Increases meal enjoyment
- **Improving food quality and variety**
 - Increases total energy and meat intake
 - Increases meal enjoyment
 - Large portions increased intake of vegetables compared to residents chose their own portion sizes
 - Two portions of varying vegetables increased meat intake by 32%
 - Ensure mechanically altered food textures are visually appealing.

Mealtime Interventions

- **Social interactions**
 - Stimulate conversation at mealtimes
 - Increases meal enjoyment which indirectly influences food intake
 - Involve the resident in conversation with the staff
 - Condiments stimulated conversation amongst the residents
- **Eating environment**
 - Allow flexibility in the dining room seating

Staff Interventions

- **Education**
 - Improve the staff's awareness of malnutrition
 - Leads to earlier nutrition referrals.
- **Training**
 - Training non-nursing staff to assist with nutrition interventions such as offering supplements between meals and providing snacks.
- **8-Hour Training Program**
 - Federal and state dietary regulations with a focus on hand hygiene practices, resident rights and dignity, and feeding assistance during meals and between meals.
 - Significantly improved quality improvement scores with feeding assistance.
 - Trained non-nursing staff spent an additional 5 minutes with each resident to promote oral intakes
 - 80% of the trained non-nursing staff continued these interventions 6 months after completing the training program.



Conclusions

- Incorporate nutritional education for staff and residents
 - Improve the understanding and awareness of malnutrition
- Increase the energy and caloric intakes of the residents by:
 - Enhancing menu quality and variety
 - Increase meal enjoyment through sharing the mealtime experience with the residents
 - Ensuring well-trained and adequately staffed personnel

References

1. Beelen, J., Vasse, E., Ziyian, C., Janssen, N., de Roos, N. M., & de Groot, L. M. (2017). Undernutrition: Who cares? perspectives of dietitians and older adults on undernutrition. *BMC Nutrition*, 3. <https://doi.org/10.1186/s40795-017-0144-4>
2. Dent, E., Wright, O. L., Woo, J., & Hoogendijk, E. O. (2023). Malnutrition in older adults. *The Lancet*, 401(10380), 951–966. [https://doi.org/10.1016/s0140-6736\(22\)02612-5](https://doi.org/10.1016/s0140-6736(22)02612-5)
3. Divert, C., Laghmaoui, R., Crema, C., Issanchou, S., Wymelbeke, V., & Sulmont-Rossé, C. (2015). Improving meal context in nursing homes: impact of four strategies on food intake and meal pleasure. *Appetite*, 84, 139–147. <https://doi.org/10.1016/j.appet.2014.09.027>
4. Hollingsworth, E. K., Long, E. A., & Simmons, S. F. (2016). Comparison between quality of care provided by trained feeding assistants and certified nursing assistants during between-meal supplementation in long-term care settings. *Journal of Applied Gerontology*, 37(11), 1391–1410. <https://doi.org/10.1177/0733464816669806>
5. Hugo, C., Isenring, E., Miller, M., & Marshall, S. (2018). Cost-effectiveness of food, supplement and environmental interventions to address malnutrition in residential aged care: A systematic review. *Age and Ageing*, 47(3), 356–366. <https://doi.org/10.1093/ageing/afx187>
6. Keller, H. H., Syed, S., Dakkak, H., Wu, S. A., & Volkert, D. (2022). Reimagining nutrition care and mealtimes in long-term care. *Journal of the American Medical Directors Association*, 23(2), 253–260.e1. <https://doi.org/10.1016/j.jamda.2021.12.021>
7. Moloney, L., & Jarrett, B. (2021). Nutrition assessment and interventions for the prevention and treatment of malnutrition in older adults: An evidence analysis center scoping review. *Journal of the Academy of Nutrition and Dietetics*, 121(10), 2108–2140.e6. Retrieved November 4, 2023, from <https://doi.org/10.1016/j.jand.2020.09.026>
8. Seemer, J., Kiesswetter, E., Blawert, A., Fleckenstein, D., Gloning, M., Bader-Mittermaier, S., Sieber, C. C., Wurm, S., & Volkert, D. (2021). An individualised nutritional intervention concept for nursing home residents with or at risk of malnutrition: An enable study. *Geriatrics*, 6(1), 2. <https://doi.org/10.3390/geriatrics6010002>
9. Seemer, J., Kiesswetter, E., Fleckenstein-Sutmann, D., Gloning, M., Bader-Mittermaier, S., Sieber, C. C., Sixt, B., Wurm, S., & Volkert, D. (2021). Effects of an individualised nutritional intervention to tackle malnutrition in nursing homes: A pre-post study. *European Geriatric Medicine*, 13(3), 741–752. <https://doi.org/10.1007/s41999-021-00597-y>
10. Simmons, S. F., Hollingsworth, E. K., Long, E. A., Liu, X., Shotwell, M. S., Keeler, E., An, R., & Silver, H. J. (2017). Training nonnursing staff to assist with nutritional care delivery in nursing homes: A cost-effectiveness analysis. *Journal of the American Geriatrics Society*, 65(2), 313–322. <https://doi.org/10.1111/jgs.14488>
11. Simmons, S. F., Keeler, E., An, R., Liu, X., Shotwell, M. S., Kuertz, B., Silver, H. J., & Schnelle, J. F. (2015). Cost-effectiveness of nutrition intervention in long-term care. *Journal of the American Geriatrics Society*, 63(11), 2308–2316. <https://doi.org/10.1111/jgs.13709>
12. Van Wymelbeke, V., Sulmont-Rossé, C., Feyen, V., Issanchou, S., Manckoundia, P., & Maître, I. (2020). Optimizing sensory quality and variety: An effective strategy for increasing meal enjoyment and food intake in older nursing home residents. *Appetite*, 153, 104749. <https://doi.org/10.1016/j.appet.2020.104749>
13. Verbrughe, M., Beeckman, D., Van Hecke, A., Vanderwee, K., Van Herck, K., Clays, E., Bocquaert, I., Derycke, H., Geurden, B., & Verhaeghe, S. (2013). Malnutrition and associated factors in nursing home residents: A cross-sectional, multi-centre study. *Clinical Nutrition*, 32(3), 438–443. Retrieved September 15, 2023, from <https://doi.org/10.1016/j.clnu.2012.09.008>
14. Volkert, D., Beck, A., Cederholm, T., Cereda, E., Cruz-Jentoft, A., Goisser, S., de Groot, L., Großhauser, F., Kiesswetter, E., Norman, K., Pourhassan, M., Reinders, I., Roberts, H. C., Rolland, Y., Schneider, S. M., Sieber, C. C., Thiem, U., Visser, M., Wijnhoven, H. A., & Wirth, R. (2019). Management of malnutrition in older patients—current approaches, evidence and open questions. *Journal of Clinical Medicine*, 8(7), 974. <https://doi.org/10.3390/jcm8070974>
15. Xie, H., Qiao, L., Zhao, Y., Yan, Z., Bai, H., Wang, Y., Ye, T., Yu, J., Du, Q., & Sun, J. (2023). Nutrition education with or without oral nutrition supplements has contrasting effects on nutrition status in older adults: A randomized controlled study. *Nutrition in Clinical Practice*, 38(1), 138–147. <https://doi.org/10.1002/ncp.10898>