

22 JULY 2018

NURSE-LED COGNITIVE TRAINING IN CHRONIC ILLNESS

Heather E. Cuevas, PhD, RN, ACNS-BC

Assistant Professor of Clinical Nursing
The University of Texas at Austin, USA

Cognitive Impairment

- Rates are rising
- What are the recommendations?
 - Screening?
 - Treatment?
- How does this affect self-management?

Nursing's Role

- Identify risk
- Manage symptoms
- Identify resources



Review Aim

- To identify characteristics of effective nurse-led interventions to improve cognitive function in people with chronic non-neurologic conditions.

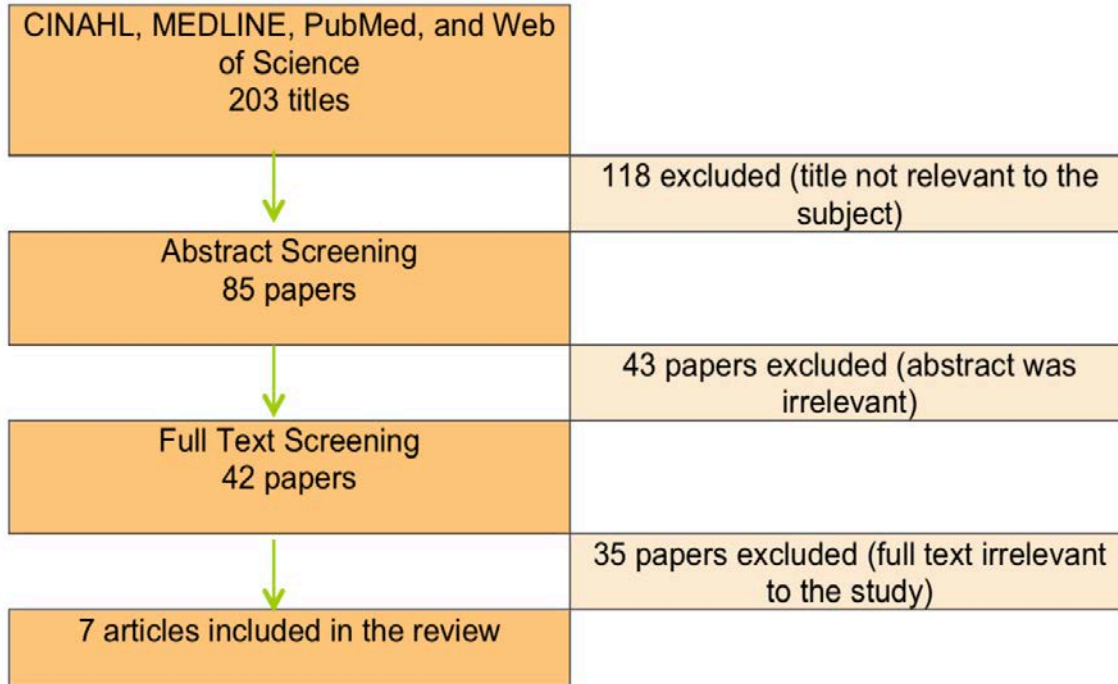
Questions

- Does nurse-led cognitive training lead to improved cognitive function and chronic disease self-management?
- What are the characteristics of effective interventions to improve cognitive function?

Methods

- Integrative Review
- “Cognitive function,” “cognitive training,” “nurse,” “nurse-led,” “chronic disease” and synonyms
- MEDLINE, PubMed, Web of Science, and CINAHL
- (1) Peer reviewed, (2) published in English, (3) published between 2007 – 2017.

Flow Diagram



- 5 in the USA
- Sample size range: **25 – 228**
- Interventions: **6 weeks to 4 months** long
- Number of cognitive tests: **3 to 9** per study

Review Findings: Intervention components

- Computerized training
- Memory training
- Telephone coaching
- “Homework”
- Cognitive strategies



Review Findings: Efficacy

- Interventions were found to improve memory and processing speed.
- Verbal fluency improved in one study.
- Satisfaction with one intervention was high (89%).



Future Research Directions

- More qualitative work
- Larger sample sizes
- Use of established consistent tests
- Multi-country studies to achieve an international perspective



Conclusions

- Improvement in *some* cognitive domains after training.
- Studies highlighted contribution of nursing in development, administration, and analysis.

Implications

- Tentative recommendations due to need for:
 - Larger scale RCTs
 - Standardized cognitive batteries
 - Inclusion of underrepresented groups
 - Transfer effect?



References

- Beck, C., Fausett, J. K., Krukowski, R. A., Cornell, C. E., Prewitt, T. E., Lensing, S.,...West, D. S. (2013). *Journal of Aging and Health*, 25(1), 97-118. <http://doi.org//10.1177/0898264312467374>
- Becker, H., Henneghan, A. M., Volker, D. L., Mikan, S. Q. (2017). A pilot study of a cognitive-behavioral intervention for breast cancer survivors. *Oncology Nursing Forum*, 44(2), 255- 264. <http://doi.org//10.1188/17.ONF.255-264>
- Heisz, J. J., Clark, I. B., Bonin, K., Paolucci, E. M., Michalski, B., Becker, S., Fahnestock, M. (2017). The effects of physical exercise and cognitive training on memory on neurotrophic factors. *Journal of Cognitive Neuroscience*, 29(11), 1895-1907. http://doi.org//10.1162.jocn_a_01164
- Mavrodaris, A., Powell, J., & Thorogood, M. (2013). Prevalence of dementia and cognitive impairment among older people in sub-Saharan Africa: a systematic review. *Bulletin of the World Health Organization*, 19, 773-778. <http://dx.doi.org/10.2471/BLT.13.118422>
- Park, JH., Jung, Y. S., Kim, K. S., & Bae, S. H. (2017). Effects of compensatory cognitive training intervention for breast cancer patients undergoing chemotherapy: a pilot study. *Supportive Care in Cancer*, 25, 1887-1896. <http://doi.org//10.1007/s00520-017-3589-8>

References

- Pressler, S. J., Therrien, B., Riley, P., Chou, C., Ronis, D. L., Koelling, T. M., ... Giordani, B. (2011). Nurse-enhanced memory intervention in heart failure: The MEMOIR study. *Journal of Cardiac Failure*, 17(10), 832-843. [http://doi.org// 10.1016/j.cardfail.2011.06.650](http://doi.org//10.1016/j.cardfail.2011.06.650)
- Pressler, S. J., Titler, M., Koelling, T. M., Riley, P., Jung, M., Hoyland-Domenico, L., ...Giordani, B. (2015). Nurse-enhanced computerized cognitive training increases serum brain-derived neurotropic factor levels and improved working memory in heart failure. *Journal of Cardiac Failure*, 21(8), 630-641. <http://doi.org//10.1016/j.cardfail.2015.05.004>
- Von Ah, D., Carpenter, J. S., Saykin, A., Monahan, P., Wu, J., Yu, M., Rebok, G., Ball, K., Schneider, B., Weaver, M., Tallman, E., & Unverzagt, F. (2012). Advanced cognitive training for breast cancer survivors: a randomized controlled trial. *Breast Cancer Research and Treatment*, 135, 799-809. <http://doi.org//10.1007/s10549-012-2210-6>



THANK YOU!