Non-Pharmacologic Interventions for Persons with Dementia

by Marla Berg-Weger, PhD & Daniel B. Stewart, MSG

While further study is needed to determine best practices in delivering non-pharmacologic interventions, such findings suggest that these strategies are providing a response to a growing need for quality of life interventions.

Marla Berg-Weger, PhD, LCSW, is Professor, School of Social Work, Executive Director, Gateway Geriatric Education Center, Saint Louis University, St. Louis, Missouri. Daniel B. Stewart, MSG, is a Doctoral Student, School of Social Work, Saint Louis University, St. Louis, Missouri.
Contact: bergwm@slu.edu

Abstract

Affecting over 100,000 older Missourians, cognitive impairment is of concern for all health care providers. With no available pharmacologic treatments to eradicate/diminish symptoms, professionals and families need non-pharmacologic behavioral interventions to enhance individuals' quality-of-life and decrease the number and intensity of dementia-related behavioral symptoms. This paper provides an overview of available evidence-based non-pharmacologic interventions and strategies that can be delivered in both the community and facility setting, including reminiscence, validation, and cognitive stimulation therapies.

Introduction

As all health care providers who provide care for older adults know, two trends are challenging our capacity to meet the needs of this patient population: 1) the growing number of older adults and 2) the increased prevalence of cognitive impairment. When providing health care for an increasing number of older adults with cognitive impairment, health care providers, physicians in particular, can find treatment options and resources to be lacking. This paper will address the impact of these two issues on older adults living in Missouri and provide an overview of non-pharmacologic and behavioral interventions for persons with dementia. This emerging area can now provide options for older adults experiencing cognitive impairment and their families and care partners.

Profile of Aging and Cognitive Impairment in Missouri

To better understand the realities of caring for older adults living in Missouri, we must consider demographic changes occurring in the state. Older adults (65 years and older) currently comprise 15.7% of the population in Missouri, an increase of 4.7% since 2010[1]. This places Missouri as one of eleven states in which the older adult population comprises greater than 14% of the total state population[1]. With an estimated annual increase of approximately 3%, the total population of older adults in Missouri is expected to increase 41% by 2030[2].

Compounding the complexities of providing health and social services to our older adult population is the fact that Missouri falls short in multiple areas of health status and health care for older adults. Overall, Missouri's older adults are ranked 40th in senior health, having fallen four spots in the past two years[2]. Moreover, the number of older adults who self-report their health as "good" or "excellent" is only 48% and has remained unchanged since 1999[2]. When coupled with the fact that we are ranked 25th in terms of a "geriatrician shortfall," 38th in preventable hospitalization, and 35th

in unnecessary hospital re-admissions, Missouri health care providers have area for improvement in providing care for older adults[2], particularly for those Missourians who are experiencing cognitive impairment.

With improved methods of assessment and early diagnosis, the number of persons diagnosed with cognitive impairment is on the rise as well. Ranging from Mild Cognitive Impairment (MCI) to more severe forms of dementia (e.g., Alzheimer's disease, Lewy Body Dementia, etc.), 5.3 million[3] Americans experience cognitive impairment, two-thirds of whom are women. This number is expected to increase to 16 million[3] by mid-century. In Missouri, there are currently 110,000 older adults (9.1% of the older adult population) who have been diagnosed with cognitive impairment and that number is expected to rise to 120,000 by 2020 and 130,000 by 2030 resulting in Missouri having the 9th highest death rate due to Alzheimer's disease and other dementias[3]. Not only are dementias the 6th leading cause of death in Missouri, they are costing the state over $800 million in annual Medicaid payments[3].

Treatment Options for Cognitive Impairment

For those persons experiencing cognitive impairment, the stark reality is that there is presently no pharmacologic treatment available to "cure" the disease or even significantly slow the progression of memory and functional deficits. There are currently six U.S. Food and Drug Administration prescription drugs approved for use in symptom-improvement, but the outcomes differ dramatically by individual and all have been shown to have limited benefit over the long term[3]. While hundreds of drugs are being tested, the process for approval is long and costly with no one drug at present showing promise. The most common pharmacologic intervention is the cholinesterase inhibitor, but there is little evidence to support its efficacy[4].

With no viable long term pharmacologic treatment available, professionals and individuals diagnosed with cognitive impairment, their families, and their caregivers are seeking help and support in living with this disease. In particular, professionals and caregivers are searching for strategies to address the behavioral and psychological symptoms of dementia (BPSD). The overwhelming majority (approximately 80%) of persons with cognitive impairment will experience BPSD at some stage of the progressive illness[5]. As a result, non-pharmacologic interventions are beginning to emerge as an alternative strategy for not only addressing BPSD, but to enhance the quality of life for the person with dementia and care partners.

The aim of a non-pharmacological or behavioral intervention is to improve or at least maintain the individual's cognitive function, enable the person to continue to perform usual activities of daily living, and/or address behavioral symptoms that often accompany memory impairment[3] (e.g., depression, wandering, sleep, agitation, or aggression). Research findings support[6] the belief that intellectual engagement and physical activity improve one's cognitive functioning; thereby providing support for interventions that are non-pharmacologic and are focused on the individual's capabilities. As the evidence-based non-pharmacologic psychosocial interventions are proving to be more cost-effective than pharmaceutical treatments and, because they do not involve the prescribing of medication are free of side effects[7,8], they are an emerging treatment option to consider.

A number of national and international bodies are calling for the development of evidence-based non-pharmacologic interventions for persons with dementia for the purposes of addressing BPSD, stimulating cognitive function, and improving the lives of the individuals with dementia and their caregivers. Led by the World Health Organization (WHO), dementia experts from around the globe convened in 2015 for the first Ministerial Conference on Global Action Against Dementia. Out of this gathering came a Call to Action[9] that identified the need for "diversification of therapeutic approaches including non-pharmacological as well as pharmacological agents" (p. 33). The WHO Mental Health Gap Action Programme (mhGAP) further calls for the development of cognitive stimulation interventions in which caregivers can be trained to deliver programs at home and in the community and for the creation of non-pharmacologic interventions to address issue of BPSD and depression[10]. Despite the need for further widespread and methodologically sound, experimental, and longitudinal research to support the efficacy of non-pharmacological interventions, there is data to suggest that these interventions can improve cognitive status, social engagement, and quality of life, while decreasing depressive symptoms. Within the U.S., the American Geriatrics Society (AGS) endorses the delivery of non-pharmacologic interventions as a primary practice to address BPSD[11]. The following discussion will highlight available non-pharmacologic interventions, including reminiscence therapy, reality orientation, validation therapy, and cognitive stimulation therapy.

Non-Pharmacological Interventions

Believed to be a safe treatment option with fewer side effects[12], non-pharmacologic interventions stem from a variety of disciplines each attempting to positively influence cognition, mood, and other behavioral and psychological symptoms of dementia. These interventions can be divided into four categories outlined by Cammusuli et al.[8]: holistic techniques, brief psychotherapy, cognitive methods, and

alternative methods. For sake of brevity, the authors have focused on holistic interventions that have shown promise and are well documented within the literature. These holistic interventions included reality orientation, reminiscence therapy, validation therapy, and cognitive stimulation therapy.

Reminiscence Therapy

Reminiscence therapy elicits recall of past events, activities, and memories through the use of tangible aids such as photographs, familiar items from the past, music and movies. While remembering recent memories (e.g. what one had for lunch) may prove difficult for individuals with dementia, long held memories of personal importance can remain easily accessible. Reminiscence therapy encourages participants to speak about past experiences therefore decreasing the demand on impaired cognitive abilities while encouraging those preserved abilities. Evidence[13-20] suggests reminiscence is an effective means of improving mood in persons with dementia but results are mixed regarding a definite cognitive benefit. The intervention is administered in either a group setting, typically once/week focusing on free recall of memories or on an individual basis within the context of a focused life review. Overall, reminiscence therapy shows a small-size effect on cognitive function (g= 0.18, 95% confidence interval 0.05-0.30) and a moderate-size effect on depressive symptoms (g= -0.59 vs. -0.16, p= 0.003)[13]. In St. Louis, the Alzheimer's Association and Saint Louis University have developed a very popular reminiscence group based on the Major League Baseball team, the St. Louis Cardinals[21].

Validation Therapy

Validation therapy is a form of "therapy for communicating with persons diagnosed as having Alzheimer's disease and related dementia"[21]. Focused on validating the personhood and emotions of a person with dementia, validation therapy posits that individuals with dementia present with confusion as a means to avoid stress, boredom, loneliness, and often as an escape from a reality[22,23]. It is then the responsibility of the facilitator (e.g. caregiver, clinician) to validate the feelings of the person with dementia rather than focus on the confusion as a means of comfort[22]. Validation therapy is found to alleviate stress[24], promote contentment[25], and decrease behavioral disturbances[25]. Note that the benefit of validation therapy may be limited to those with mild-moderate form of the disease[26]. This therapy focuses less on what is factually correct and more so on validating the person's feelings and emotions in their moment of confusion.

Reality Orientation

First described by Taulbee and Folsom in 1966, reality orientation aims to decrease confusion and behavioral symptoms in people with dementia by orienting the individual to time and place. Widely used, reality orientation includes classroom-like group sessions held daily for 30 minutes[27]. These sessions involve facilitators presenting personal and current information to participants through the use of games, puzzles, calendars, and reality orientation boards. In a systematic review of 43 studies yielding six randomized control trials (RCT) testing the efficacy of reality orientation, reality orientation is correlated with cognitive and behavioral benefits in participants with dementia[28].

Cognitive Stimulation Therapy

Like reality orientation, cognitive stimulation is typically delivered in a social setting in small groups involving cognitive based tasks and activities, including word games and puzzles[29-31]. In multiple efforts to determine the effectiveness of cognitive stimulation, review studies found cognitive stimulation to be one of the most effective non-pharmacologic interventions[8,31-33]. Participants exhibited improvement in cognitive function, quality of life, and well-being immediately when compared to those receiving usual care (anti-dementia medication) [31-33]. Cognitive stimulation provides the basis (with influences from the aforementioned therapies) for a holistic intervention: Cognitive Stimulation Therapy

Cognitive Stimulation Therapy (CST) is a non-pharmacologic, psychosocial group intervention for individuals with mild to moderate dementia. Based on cognitive stimulation, reality orientation, reminiscence therapy, and validation therapy, CST incorporates key features of other holistic therapies within a guided curriculum. CST is delivered twice a week for 45 minutes over seven weeks. The 14-themed sessions are outlined in the manual Making a Difference: An Evidenced-based Group Programme to Offer Cognitive Stimulation Therapy for People with Dementia[34]. Studies[35-39] show CST to improve processing and recall for individuals with dementia and a reduction in behavioral issues[35]. Derived from the UK, CST is currently the only non-pharmacologic intervention for dementia recommended by the UK government guidelines[41]. Findings[35-43] from the literature suggest CST to be a viable, cost-effective non-pharmacological intervention for dementia both in the community and in the nursing home.

Conclusion

While development of pharmacologic treatments to slow or end the progression of cognitive deficits for persons with dementia is an ongoing process that is likely years (maybe decades) from realization, effective evidence-based non-pharmacologic interventions are available now for enhancing the quality of lives of persons with dementia and

their care partners. Such interventions are low cost, without physical side effects, and can be delivered by trained lay, paraprofessional, and/or professional facilitators. Of the non-pharmacologic interventions highlighted here, Cognitive Stimulation Therapy is the newest and potentially most impactful strategy for enhancing cognition, quality of life, and depressive symptoms. Recently introduced into the U.S. by Saint Louis University, CST is gaining acceptance, particularly in Missouri. Information on both the group and individual formats is available in an on-line format through the Gateway Geriatric Education Center (GEC) or in-person training sessions. To obtain more information on the availability of CST, visit the GEC website at aging.slu.edu or contact aging@slu.edu. CST can and is being delivered in both the individual and group formats in residential and long term care settings, community and out-patient hospital-based settings, and in the individual's home. Recent and current research is being conducted at Saint Louis University in both group-based and individual (iCST) formats. A 2015 study of a group-based CST that included somatic movement (i.e., chair yoga) yielded results that suggest improvement for all participants in the areas of cognitive function, depression, quality of life, and mobility[42]. While further study is needed to determine best practices in delivering non-pharmacologic interventions, such findings suggest that these strategies are providing a response to a growing need for quality of life interventions.

References

1. U.S. Census Bureau. Quick facts. www.census/gov/quickfacts/table/PST045215/29. Washington, D.C.: U.S. Census Bureau; 2015.
2. United Health Foundation. America's health rankings® senior report. Retrieved from: http://assets.americashealthrankings.org/app/uploads/final-report-seniors-2016-edition-1.pdf. 2016.
3. Alzheimer's Association. 2016 Alzheimer's disease facts and figures. Alzheimers Dement. 2016; 12(4):459-509.
4. Rodda J, Morgan S, Walker Z. Are cholinesterase inhibitors effective in the management of the behavior and psychological symptoms of dementia in Alzheimer's disease? A systematic review of randomized, placebo-controlled trials of donepezil, rivastigmine and galantamine. Int Psychogeriatr. 2009; 5: 813-824.
5. Lyketsos CG, Lopez O, Jones B, Fitzpatrick AL, Breitner J, DeKosky S. Prevalence of neuropsychiatric symptoms in dementia and mild cognitive impairment: Results from the cardiovascular health study. JAMA. 2002; 288(12): 1475-1483.
6. Hertzog C, Kremer AF, Wilson RS, Lindenburger, U. Enrichment effects on adult cognitive development: Can the functional capacity of older adults be preserved and enhanced. Psychol Sci Public Interest. 2008; 9:1-65.
7. Ballard C, Khan Z, Clack H, Corbett, A. Non-pharmacological treatment of Alzheimer's disease. Can J Psychiatry. 2011; 56(10): 589-592.
8. Cammisuli DM, Danit S, Bosinelli F, Cipriani G. Non-pharmacological interventions for people with Alzheimer's disease: A critical review of the scientific literature from the last ten years. Eur Geriatr Med. 2016; 7: 57-64.
9. World Health Organization. First WHO Ministerial Conference on Global Action Again Dementia Meeting Report. Retrieved from: http://apps.who.int/iris/bitstream/10665/179537/1/9789241509114_eng.pdf. 2015.
10. World Health Organization. WHO Mental Health Gap Action Programme (mhGAP). Retrieved from: http://www.who.int/mental_health/ mhgap/en/. 2009.
11. American Geriatrics Society. Choosing Wisely. An initiative of the ABIM Foundation. Five things physicians and patients should question. American Geriatrics Society. 2013.
12. Gill SS, Bronskill SE, Normand SL, et al. Antipsychotic drug use and mortality in older adults with dementia. Ann Intern Med. 2007; 146(1): 775-786.
13. Huang, HC, Chen TJ, Chen PY, et al. Reminiscence therapy improves cognitive functions and reduces depressive symptoms in elderly people with dementia: A meta-analysis of randomized controlled trials. J Am Med Dir Assoc. 2015; 16(12): 1087-1094.
14. Van Bogaert P, Van Grinsven R, Tolson D, et al. Effects of SolCos model-based individual on older adults with mild to moderate dementia due to Alzheimer disease: A pilot study. J Am Med Dir Assoc. 2013;14:528.e9e 528.e13.
15. Woods B, Spector A, Jones C, Orrell M, Davies S. Reminiscence therapy for dementia. Cochrane Database Syst Rev. 2005 Apr 18;(2):CD001120.
16. Livingston G, Johnston K, Katona C, Paton J, Lyketsos CG. Systematic review of psychological approaches to the management of neuropsychiatric symptoms of dementia. Am J Psychiatr. 2005;162(11): 1996–2021.
17. Van Puyenbroeck J, Maes B. The effect on reminiscence group work on life satisfaction, self-esteem and mood of aging people with intellectual disabilities. J Appl Res Intellect. 2009; 22: 23–33.
18. Serrani Azcurra DJ. A reminiscence program intervention to improve the quality of life of long-term care residents with Alzheimer's disease: A randomized controlled trial. Rev Bras Psiquiatr. 2012; 34:422e433.
19. Van Bogaert P, Van Grinsven R, Tolson D, et al. Effects of SolCos model-based individual reminiscence on older adults with mild to moderate dementia due to Alzheimer disease: A pilot study. J Am Med Dir Assoc. 2013; 14:528.e9e 528.e13.
20. Woods RT, Bruce E, Edwards RT, et al. REMCARE: Reminiscence groups for people with dementia and their family caregivers-effectiveness and cost-effectiveness pragmatic multicentre randomised trial. Health Technol Assess. 2012;16:1e116.
21. Wingbermeuhle C, Bryer D, Berg-Weger M, Tumosa N, McGillick J, Rodriguez C, Gill D, Wilson N, Leonard K, Tolson D. Baseball Reminiscwence League: A model for support persons with dementia. J Am Med Dir Assoc. 2014; 15: 85-89.
22. Feil N. The Validation Breakthrough. Baltimore, MD: Health Professions Press, Inc. 1993.
23. Saddichha S, Pandey V. Alzheimer's and Non-Alzheimer's dementia: A critical review of pharmacological and non-pharmacological strategies. Am J Alzheimers Dis Other Demen. 2008; 23(2): 150-161.
24. Mitchell G. Agnelli J. Non-pharmacological approaches to alleviate distress in dementia care. Nurs Stand. 2015; 13: 38-44.
25. Hitch S. Cognitive therapy as a tool for the caring elderly confused person. J Clin Nurs. 1994;3:49-55.
26. Finnema E, Droes R, Ettema T. The effect of integrated emotion-oriented care versus usual care of elderly persons with dementia in the nursing home and on nursing assistants: A randomized clinical trial. Int J Geriatr Psychiatry. 2005; 20(4): 330-343.
27. Taulbee LR, Folsom JC. Reality orientation for geriatric patients. Hosp Community Psychiatry. 1966; 17: 133-135.
28. Spector A, Orrell M, Davies S, Woods B. Reality Orientation for dementia: a review of the evidence of effectiveness from randomized controlled trails. Gerontologist. 2000; 40(2): 206–212.
29. Aguirre E, Hoare Z, Streater A, et al. Cognitive stimulation therapy (CST) for people with dementia—who benefits most? Int J Geriatr Psychiatry. 2013; 28: 284-290.
30. Clare L, Woods RT. Cognitive training and cognitive rehabilitation for people with early-stage Alzheimer's disease: A review. Neuropsychol Rehabil. 2014; 14: 385–401.
31. Woods B, Aguirre E, Spector AE, Orrell M. Cognitive stimulation to improve cognitive functioning in people with dementia. Cochrane Database of Systematic Rev. 2012; 2.
32. Cooper C, Mukadam N, Katona C, et al. Systematic review of the effectiveness of non-pharmacological interventions to improve quality of life of people with dementia. Int Psychogeriatr. 2012; 24:856–870.
33. Olazaran J, Reisberg B, Clare L, et al. Nonpharmacological therapies in Alzheimer's disease: A systematic review of efficacy. Demen Geriatr Cogn Disord. 2010; 30: 161–178.
34. Spector A, Thorgrimsen L, Woods B, Orrell M. Making a difference: An evidence-based group programme to offer Cognitive Stimulation therapy (CST) to people with dementia. UK: Hawker Publications; 2004.
35. Spector A, Thorgrimsen L, Woods B, et al. Efficacy of an evidence-based cognitive stimulation therapy programme for people with dementia. BJPsych. 2003; 183(3):248-254.
36. Spector A, Orrell M, Woods B. Cognitive Stimulation Therapy (CST): Effects on different areas of cognitive function for people with dementia. Int J Geriatric Psychiatry. 2010; 25(12): 1253-1258.
37. Spector A, Garder C, Orrell M. The impact of cognitive stimulation therapy groups on people with dementia: Views from participants their carers and group facilitators, Aging and Mental Health. 2011:15(8): 945-949.
38. DeOlivieraTC,SoaresFC,DeMacddoLD,etal.Beneficialeffectsofmultisensory and cognitive stimulation on age-related cognitive decline in long-term-care institutions. Clin Interv Aging. 2014; 9:309e320.
39. Apóstolo JL, Cardoso DF, Rosa AI, Paúl C. The effect of cognitive stimulation on nursing home elders: A randomized controlled trial. J Nurs Scholarsh. 2014;36: 157e166.
40. Berg-Weger M, Henderson-Kalb J, Zubatsky M, Lundy D, Hayden D. Cognitive Stimulation Therapy: A tool for your practice with persons with dementia? J Am Med Dir Assoc. 2015; 16: 795-798.
41. National Institute for Health and Clinical Excellence Dementia: Supporting people with dementia and their carers in health and social care. NICE clinical guideline. 2007; 42.
42. Stewart DB, Berg-Weger M, Tebb SS, Sakamoto M, Roselle K, Downing L, Lundy J, Hayden D. Making a difference: A quasi-experimental study of cognitive stimulation therapy (CST) for persons with dementia with and without yoga. J Ger Soc Wk. 2016; under review.
43. Loraine J, Taylor S, McAllister M. Cognitive and Physical Stimulation Therapy. J Am Med Dir Assoc. 2014; 15: 140-141.

Disclosure

None reported.

MM