Promoting Health in Early-Stage Dementia Evaluation of a 12-Week Course

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Abstract:

This project tested a 12-week health promotion course for older adults with early- stage dementia. In a quasi-experimental design, participants were assigned by site to intervention group or control group and evaluated at two time points. Mini- Mental State Examination scores, Geriatric Depression Scale scores, health behaviors, plus several measures of psychological well-being were used in this study. In the independent samples t-test analysis, significant positive change was found from pretest to posttest for the treatment group on cognition and depression. A chi square analysis found several significant positive differences in health behaviors for the treatment group.

Article:

Learning to take control of potential health problems and making positive lifestyle changes are important skills for all older adults coping with chronic diseases but may be especially important for the 5 million people (Alzheimer's Association, 2007) in this country living with memory loss due to dementia. Experts believe individuals living with dementia may be more vulnerable to certain health and secondary conditions, such as falls and injuries, urinary tract infections, and symptoms of depression (Penrod et al., 2007). Therefore, a logical health promotion approach is to help people make lifestyle changes to prevent these potential problems early in the disease rather than attempting to change behaviors after problems occur and cognition has declined.

Research shows that physical and mental activity, good nutrition, safety, stress management, recreation, and social support are effective lifestyle approaches for people with early-stage dementia (Burgener et al., 2007). These interventions play a critical role for people with dementia because they can impact overall functioning and life in the community (Zarit, Femia, Watson, RiceOeschger, & Kakos, 2004). Health and wellness information provided soon after a diagnosis of dementia, along with enhanced coping skills, may lead to health behavior changes that prevent excess disability or premature loss of function and institutionalization. The goal of this study was to evaluate a 12-week health promotion course for older adults with early-stage dementia.

BACKGROUND

Experts agree that memory-depleting diseases require an early diagnosis so health care professionals can intervene to relieve symptoms and possibly delay progression or premature institutionalization, but not all believe those with dementia are capable of learning. We theorized that people with early-stage dementia could learn healthy behaviors and health promotion skills that might affect later dependence. Second, earlier interventions with therapy (both medication and psychosocial approaches) are now considered essential for individuals with dementia (Mittelman, Ferris, Shulman, Steinberg, & Levin, 1996). The health promotion course described in this article might serve as a routine pre scribed intervention for individuals with a new diagnosis of dementia.

The service model currently available for older adults with a new dementia diagnosis has not focused on their specific needs for education, health promotion, and support to aid in understanding the disease. Some areas of the country do offer counseling, education, or support groups for caregivers, but only a few urban centers offer

support groups for individuals with early-stage dementia. The evidence to support these support group initiatives is weak (Burgener et al., 2007).

A recent consensus report (Burgener et al., 2007) produced by a panel of experts for the Alzheimer's Association examined published results of early-stage support programs. The report concluded that current research on support groups for older adults in the early stages of dementia was poorly designed, time limited, and had weak scientific evidence (Burgener et al., 2007). Moreover, research has shown that only a small percentage of families use commonly offered initiatives such as support groups, respite care, or day treatment programs (Bozoki, Grossman, & Smith, 2006; Cox, 1997; Davis, Massman, & Doody, 2001; Farran, Keane-Hagerty, Tatarowicz, & Scorza, 1993).

Much of the literature on early-stage dementia is focused on the caregiver's perspective, whereas little is known about the perspective of the person with dementia, such as the process of learning to live with the chronic condition (Lawton, Brody, & Saperstein, 1989). This focus on the caregiver can give rise to a learned helplessness and hopelessness in the individual facing this new diagnosis. The individual incorrectly assumes that he or she is incapable of having any control over his or her life or the course of the disease (Montgomery, 1992).

Until recently, few formal educational programs for individuals with dementia have been attempted by researchers or community agencies. Zarit et al. (2004) tested an intervention of a 10-session Memory Club program. This intervention provided resources and information about memory loss for individuals in the early stage of dementia along with their care partners. Preliminary evaluation of the project indicated positive response from caregivers and care receivers alike.

LEARNING DESPITE DEMENTIA

The characteristics of dementia, especially memory problems, are considered by many to be a barrier to learning. To learn new habits or behaviors, what is learned must be moved from a person's short-term memory into long-term memory. Early evidence from neurology and cognitive psychology indicates that individuals with dementia have impaired explicit memory and preserved implicit memory (Flannery, 2002). Several research studies have demonstrated successful learning for individuals with early-stage Alzheimer's disease by using implicit learning techniques (Son, Therrien, & Whall, 2002).

Recent literature has reported that explicit memory tasks are still possible, especially in individuals in the early stages of the disease (Karlsson, Johansson, Adolfsson, Nilsson, & Dubuc, 2003). A memory training program of 12 sessions supported significant improvements of attention and performance, related to activities of daily living (ADLs), using specific memory strategies (Camus et al., 2003). A study of cognitive rehabilitation for motor-type procedural memories found retention of the procedure lasted for 3 months in participants with severe cognitive impairments and up to 20 months in those with mild impairments (Bernhardt, Maurer, & Frölich, 2002).

Preliminary evidence in another study found training produced a significant result in face-name association, with gains maintained for 6 months in the absence of practice (Kawai et al., 2002). Another research team hypothesized those specific learning techniques for improving autonomy in ADLs, such as use of a cell phone, to be a consequence of relatively preserved procedural memory (Clare, Wilson, Carter, Roth, & Hodges, 2002). Researchers also attempted problem-solving therapy for individuals with both cognitive impairments and depression. The 12-week study supported remission of depression and fewer disabilities, and findings were explained by the participants' improvement of skills in generating alternatives and decision making (Lekeu, Wojtasik, Van der Linden, & Salmon, 2002).

These studies provide encouraging support for formal education programs for individuals with early- stage dementia. We theorized that it is viable to attempt positive changes in lifestyle and risky habits while individuals are still in the earliest stages. Repeated explicit memory learning and motor-type procedural

learning processes, practiced early on with resource materials as cues, may generate implicit memories that will be unconsciously remembered later in the disease course.

These promising findings led the authors to create a health promotion course curriculum for older adults with a new diagnosis of dementia called Health Promotion for the Mind, Body, and Spirit (hereafter "Health Promotion course"). The authors designed the course to provide information on the disease process and the development of healthy behaviors in a stigma-free, supportive learning environment to prevent problems that are common later in the disease. Vital to the course delivery is the workbook method designed to provide successful retrieval of information, a resource guide for future use, and weekly content to share with family members and friends.

CONCEPTUAL FRAMEWORK
The research team selected the Corbin and Strauss (1991) Trajectory Model as the conceptual framework for this project. The model is based on the premise that a chronic illness can be shaped and managed over time, even if the course of the disease cannot be modified. It defines chronic illness as the irreversible presence, accumulation, or latency of disease state that involves the total human environment for supportive care and self-care, maintenance of function, and prevention of further disability. Trajectory implies a multidimensional course or unfolding of chronic illness, which profoundly affects an individual and those around him or her in all aspects of life. Illness, characterized by symptoms, influences a person's life, and aspects of life influence a person's ability to manage his or her illness.

The Trajectory Model details various stages that occur for a patient with a chronic illness. Part of this model includes the understanding that an illness is not just experienced as part of life; it must be managed and requires work by the patient, family, and caregivers. Until now, for individuals with dementia, health care providers, family, or friends have accomplished this work. According to Corbin and Strauss (1991) the goal of health care providers within this model is to assist those with the illness to shape the impact of the illness while maintaining quality of life.

PURPOSE
This Health Promotion course is an attempt to help older adults with dementia make choices, plan their lifestyles, and shape the management of their chronic condition. The purpose of this project was threefold:

- To determine whether individuals with early-stage dementia could learn and apply new information for positive health behaviors.
- To test the impact of the Health Promotion course on the health behaviors and psychological well-being of older adults with early-stage dementia.
- To prepare evidence-based materials and training modules for others.

METHOD
This project took place over a 2- year period with a participants recruited through Alzheimer's Association chapters, physicians' offices, and newspaper advertisements in five locations in Florida. Using a quasi-experimental design, three community sites were selected to offer the Health Promotion course, and two community sites were selected as control sites to avoid contamination of the groups. The project took place in three phases to allow for revisions in the curriculum as the research staff learned of suggested improvements from outreach site instructors.

After baseline testing, the research team implemented the first round of the Health Promotion course at the treatment sites. Course instructors were trained by the Principal Investigator (L.L.B.) and Project Manager (S.F.) to provide uniform methods across sites. The classes were held in retirement communities and senior centers. The control group received educational materials only and was asked to maintain a healthy lifestyle.

During Phase 2, the research team offered a second round of courses using a slightly revised curriculum modified on the basis of recommendations from all the first round instructors. Phase 3 offered the finalized course curriculum in all sites. All participants were pretested prior to the course and posttested after the course on cognitive function using the Mini-Mental State Examination (MMSE) (Folstein, Folstein, & McHugh, 1975) and on several measures of psychological well-being.

Instruments

Researchers measured psychological well-being using a variety of assessment instruments that had been proven valid with individuals with early-stage Alzheimer's disease and pilot tested in a prior study.

Self-efficacy was measured using the 10-item Matthias and Schwarzer General Self-Efficacy Scale (Schwarzer, 1992). This psychometric scale

TABLE 1

DEMOGRAPHIC DATA FOR THE SAMPLE

Variable	Finding
Participants	33 control group
	56 treatment group
Gender	48 men
	41 women
Mean age	77.7 control group (range = 66.4 to 90.2)
	81.4 treatment group (range = 72.3 to 93.7)
Housing	39 single-family home
	26 apartment
	23 CCRCs
	1 assisted living
Living arrangements	61 with spouse
	19 alone
	7 with son or daughter
	2 with other
Marital status	62 married
	17 widowed
	5 divorced
	4 single/never married
Memory impairment or risk type	57 unspecified/at risk for Alzheimer's disease
	26 mild cognitive impairment
	3 Alzheimer's disease
	3 vascular dementia

Note. CCRCs = continuing care retirement communities.

is designed to assess optimistic self- beliefs to cope with a variety of demands in life. Used in more than 1,000 studies and translated to 29 languages, this scale demonstrates consistent validity. Depression was measured with the short-form Geriatric Depression Scale (GDS) (Sheikh & Yesavage, 1986). The short-form GDS consists of 15 questions taken from the 30- item long-form GDS. The questions selected were the ones that had the highest correlation with depressive symptoms in validation studies.

Self-esteem was measured using the Rosenberg Self-Esteem Scale (Rosenberg, 1965). This 10-item Likert scale has high reliability with test-retest correlations in the range of 0.82 to 0.88 and Cronbach's alpha coefficients in the range of 0.77 to 0.88. Quality of life was measured using the Perceived Quality of Life Scale (Patrick, Danis, Southerland, & Hong, 1988). This scale is based on the evaluation of major categories of fundamental life needs. Numerous studies have found the measure to be consistent with the needs-based theory of quality of life.

The research team also evaluated health behavior changes in participants on the basis of topics covered in modules at post-course. The research team created a health reporting form that asked about specific health-related problems that occurred during each time period. The team obtained these data through family interviews and completion of the scales listed below:

- Incidence of delirium and adverse drug events (medical records and family report).
- Social engagement and recreational activity levels (self-report and family report).
- Support networks established (self-report and family report).
- Physical functioning related to instrumental ADLs (Patient Assessment Instrument) (Lawton et al., 1989).
- Exercise participation levels and types (self-report and family report).
- Incidence of falls (medical records and self-report and family report).
- Nutritional changes that occurred (weight).
- Safety procedures in the home and non-automobile accidents (self- report and family report).

Sample
Participants were community- dwelling older adults age 65 and older with new diagnoses of dementia or those confirmed in early-stage dementia. The University Institution Review Board provided the human participants oversight for this project. Criteria for participation were age 65 or older, medical diagnosis of dementia with a MMSE score no lower than 18, capable of reading and writing, and signed consent for participation. During the second year of the project, a hurricane devastated the primary research county that contained the two control sites. Many of the more frail participants left the area, and the research team was not able to locate them for follow-up testing. The final sample included treatment and control participants with assessments for all three time points (N = 89).

The mean MMSE score was 26.64 for the 33 control group participants at pretest. The mean age of control group participants was 77.7 (age range = 66.4 to 90.2). All participants lived in the

TABLE 2

MODULE TOPICS, PRETEST-POSTTEST SCORES, AND PARTICIPANT ASSESSMENT OF MODULES

Module	Topic	Pretest Grade (%)	Posttest Grade (%)	Change in % Correct	Assessment of Module[a]
1	Healthy lifestyles	78.7	91.5	+12.8	7.6
2	Conditions that lead to memory problems	43.2	91.9	+48.7	8.8
3	Cognitive exercises	67.5	88.5	+21.0	8.7
4	Communication	83.9	94.9	+11.0	8.5
5	Relationships, depression, coping	78.5	93.0	+14.5	8.5
6	Physical activities	89.0	97.2	+8.2	9.0
7	Home and travel safety	79.8	94.3	+14.5	8.7
8	Recreation and leisure	78.2	92.7	+14.5	8.7
9	Lifelong learning				
10	Medications and talking to your health care provider	84.6	92.7	+8.1	8.7
11	Nutrition and oral care	84.8	94.4	+9.6	8.8
12	Future planning				
	Overall satisfaction				9.6

Note. Modules 9 (Lifelong Learning) and 12 (Future Planning) did not have pretests and posttests associated with them.
[a] Modules were assessed using a Likert scale ranging from 1 to 10, with 10 being the best.

community in single-family homes, apartments, or continuing care retirement communities (CCRCs). Four required a wheelchair for mobility, 2 used a cane, and 2 used a walker. The mean number of routine medications for the control group was 6.09. Because of the hurricane mentioned above, the research team was unable to collect posttest data on 20 control group participants, so the final evaluative statistics were run on the 33 control participants with complete data.

For the 56 treatment participants, the mean MMSE score was 25.6. The mean age was 81.4, with a range of 72.3 to 93.7. All treatment group participants lived in single-family homes, apartments, assisted living, or CCRCs. One required a wheelchair for mobility, 3 used a cane, and 3 used a walker. Mean number of routine medications for the treatment group was 4.02, which was significantly less than the control group. Table 1 contains demographic data on all participants.

Procedure
Each Health Promotion course offering had a maximum of 12 participants. The lead instructor held class one morning per week from 10:00 a.m. to 12:00 noon, for 12 weeks. Spouses and caregivers were not allowed to stay in the classroom during the class times, except for the 1 week when participants gave short presentations on a topic they selected.

To provide consistency and familiarity, the lead instructor of the course at each site administered all quizzes, taught the modules, and was present during all classes. Each class followed a structured format as follows. First, the module pretest quiz was administered. Second, the handouts were provided. Third, a lecture with an experiential learning assignment was presented. Finally, the posttest was administered. The quizzes consisted of three to seven open-ended questions about the content discussed that week. The researchers used the quizzes to evaluate the effectiveness of the teaching-learning resource materials and methods.

During the first class session, each participant received a name tag and a three-ring notebook with his or her name on the cover. This notebook was a critical component of the educational method for the participants. The

notebook became a resource for the participants and their families to use in the future. The notebook contained 12 dividers for the 12 modules that the instructor taught during the course. Each week, a new section of content was added. To prevent stress, participants were informed at the start of each class that they were "not required to remember anything." The instructor repeatedly informed the participants in each class to look in their notebook to find answers or to ask for help of a classmate or the instructor. During posttesting of the materials for each module, the instructor encouraged the participants to use their notebooks to find the answers, thus reinforcing the use of the

TABLE 3

***t*-TEST RESULTS FOR INDEPENDENT SAMPLES ON THE MMSE AND GDS**

Test	Mean (SD)	t	df	p Value[a]	Mean Difference (SE)
MMSE					
Pretest					
Control group	26.03 (3.067)	0.450	87	0.654	0.43 (0.965)
Treatment group	25.60 (5.011)	0.507	87	0.614	0.43 (0.856)
Posttest					
Control group	24.85* (4.169)	−2.090	87	0.040	−1.67 (0.799)
Treatment group	26.52* (3.292)	−1.967	87	0.050	−1.67 (0.849)
GDS					
Pretest					
Control group	3.06 (1.952)	−1.503	87	0.137	−0.67 (0.447)
Treatment group	3.73 (2.084)	−1.529	87	0.131	−0.67 (0.439)
Posttest					
Control group	4.29*** (2.118)	5.020	87	0.000	2.08 (0.415)
Treatment group	2.21*** (1.745)	4.774	87	0.000	2.08 (0.436)

Note. GDS = Geriatric Depression Scale; MMSE = Mini-Mental State Examination; SE = standard error.
Control group n = 33; Treatment group n = 56.
[a] Two tailed.
*$p < 0.05$.
***$p < 0.000$.

notebook to answer their questions.

During the class sessions, the instructors encouraged participants to ask questions and make comments about the lecture at any time. Teaching methods included lecture, question-and-answer periods, and interactive hands-on learning. The researchers altered modules that had less than 10% improvement from pretest to posttest scores to improve content and learning outcomes. An exception was the physical activity module that had a high pretest score of 89%. Table 2 provides module pretest and posttest quiz results. The research team also measured overall satisfaction on course evaluations completed by students (Table 2).

RESULTS
The researchers analyzed data using t tests for independent samples for primary variables. In addition, the team conducted more basic analyses involving chi square for the examination of health behaviors. At the start of the project, the treatment group and control group did differ slightly but not significantly on their MMSE scores, and the control group was found to be taking significantly more prescribed medications than the treatment group at baseline.

Evaluation of Teaching Methods

Before each Health Promotion course session began, participants were asked to take the pretest, and at the end of each session, participants completed an identical, open-book posttest. The research team gathered the pretest and posttest knowledge data for each weekly module (Table 2) from all participants in the treatment group. These data showed that participants were able to improve their scores consistently from pretest to posttest, thus demonstrating improved understanding of the material and the ability to use the notebook resource successfully. These results confirmed that this educational method was an effective way of teaching the material to individuals with mild memory impairments. Table 2 also reports the participants' overall satisfaction with the Health Promotion course. These satisfaction data were collected during the final class session. On average, the participants' overall satisfaction with the course was rated as 9.6 of 10.

Cognitive and Psychological Well- Being Findings

The researchers found significant positive change from pretest to posttest for the treatment group on MMSE and GDS scores (Table 3). The treatment group significantly improved on MMSE scores ($p < 0.05$) after taking the Health Promotion course, whereas the control group significantly declined ($p < 0.04$). The treatment group also
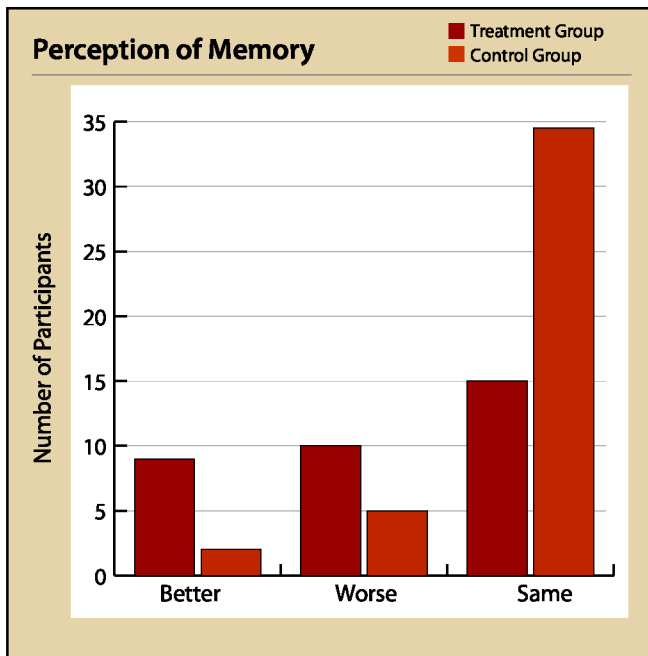
Perception of Memory

Figure 1. Participants' reported perception of memory at posttest.

Perceived Levels of Socialization
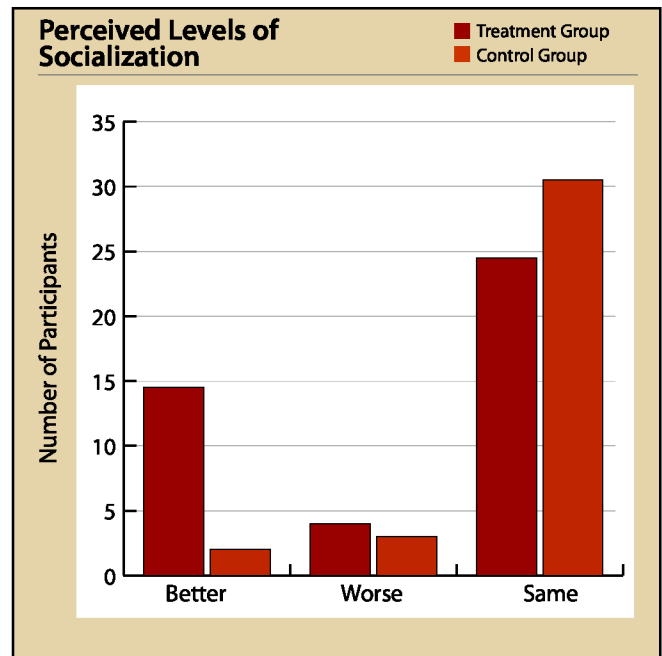
Figure 2. Participants' perceived level of socialization at posttest.

Changes in Exercise Habits
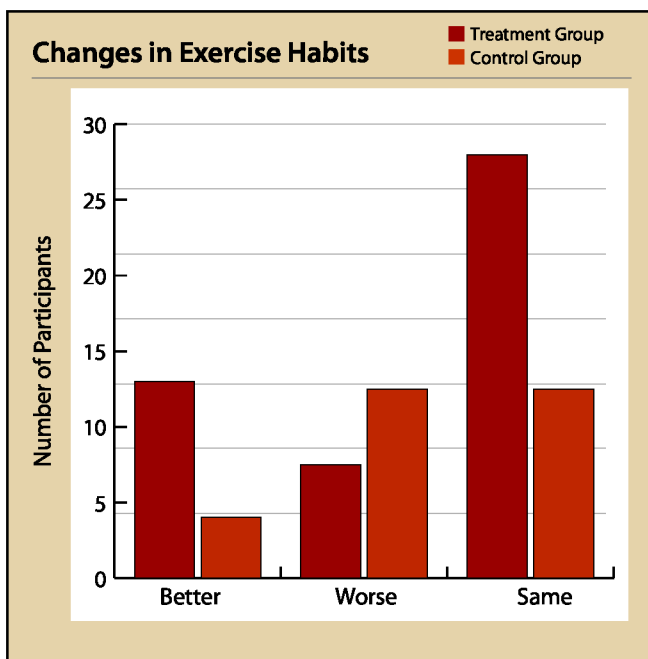

Figure 3. Participants' reported changes in exercise habits at posttest.

Changes in Number of Prescribed Medications
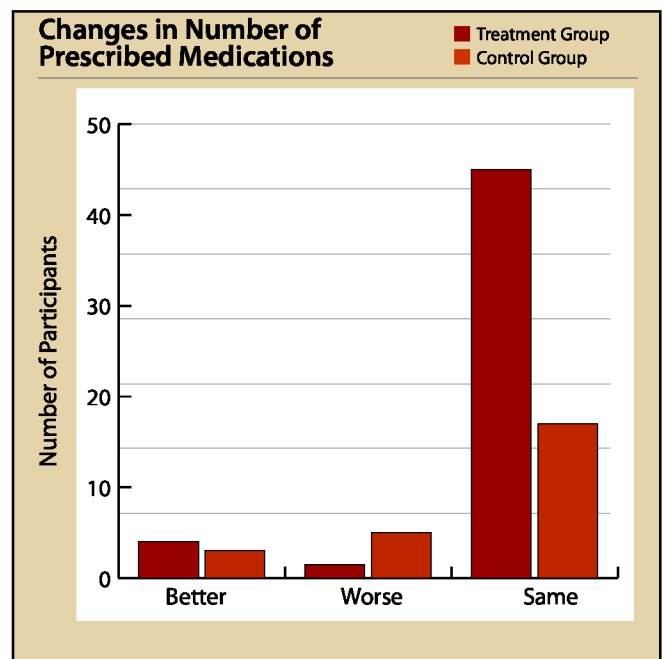
Figure 4. Changes in participants' reported number of prescribed medications at posttest.

showed a significant (p < 0.000) reduction in depressive symptoms, whereas the control group showed a significant increase in depressive symptoms (p < 0.000). None of the other measures of psychosocial well-being were significantly different at posttest. At the end of the 12-week course, the research team asked both treatment and control group participants to report actual health occurrences and health behavior changes they made during this time period. The proportion of participants reporting better, worse, or same in perceived memory is reported in received the Health Promotion course perceived their memories as significantly better than those in
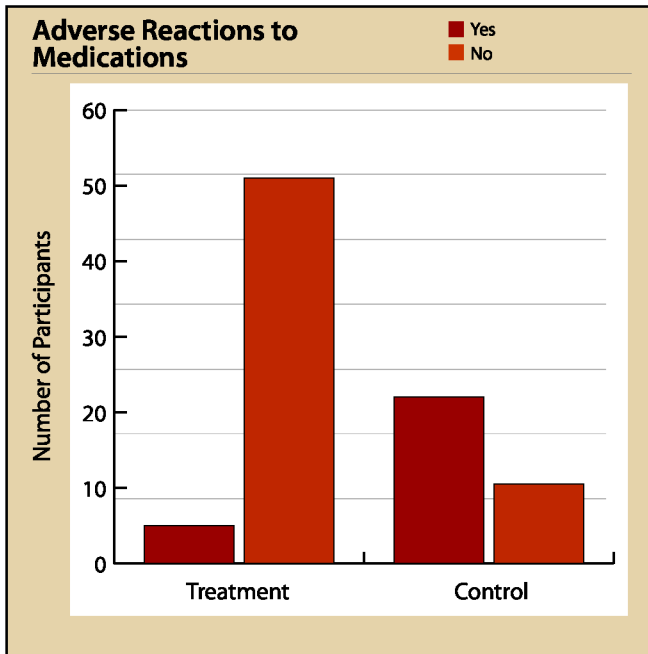
Figure 5. Participants' reported adverse reactions to medications at posttest.
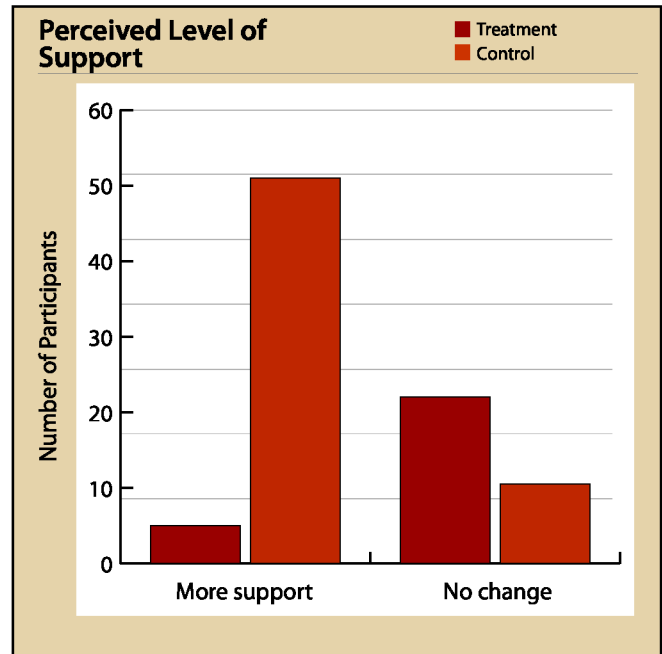

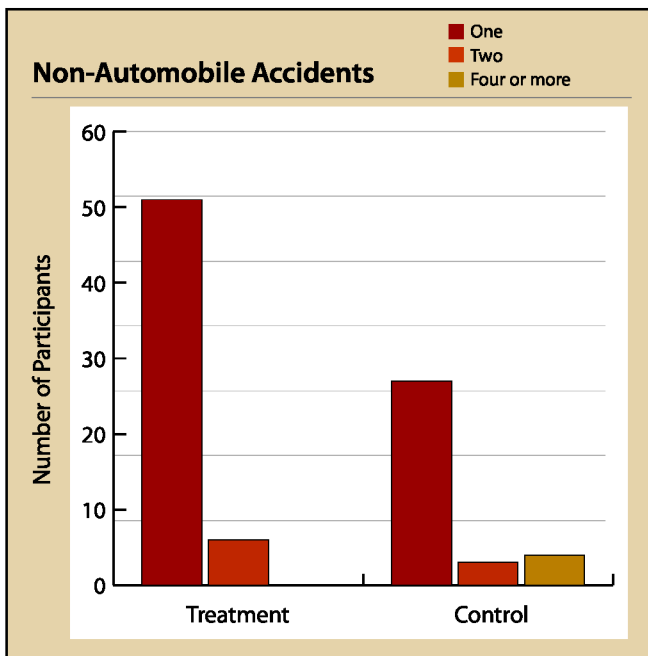Figure 6. Participants' perceived level of support at posttest.

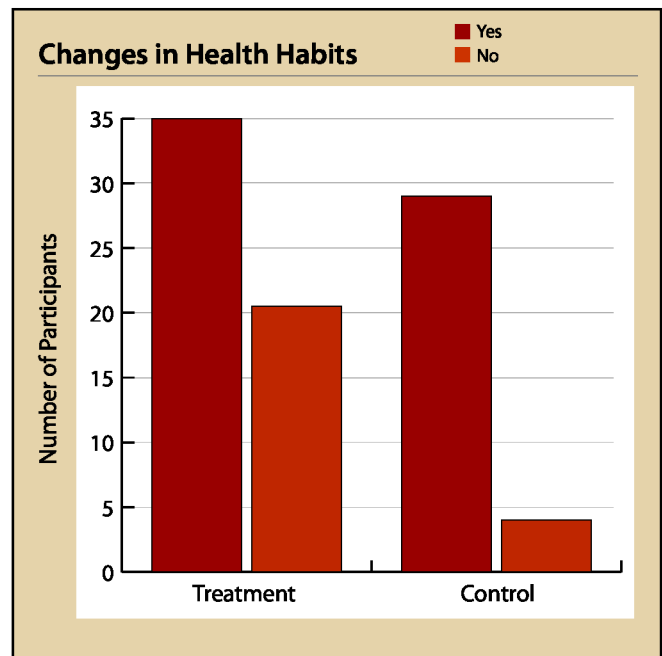Figure 7. Participants' reported non-automobile accidents at posttest.

Figure 8. Changes in participants' health habits reported at posttest.

the control group, $X^2(2, N = 89) = 10.27$, p = 0.006.

When asked about levels of socialization, the proportion of participants reporting more, less, or the same amount of socialization is reported in Figure 2. Participants in the treatment group reported their socialization outlets as significantly better than those in the control group, $X^2(2, N = 89) = 7.39$, p < 0.03.

Participants were asked about changes in health behaviors involving exercise. The proportion reporting more, less, or the same amount of exercise-type activities is reported in Figure 3. The participants in the treatment group indicated their exercise activities were significantly more than those in the control group, $X^2(2, N = 89) = 6.59$, p < 0.03.

Two questions examined the impact of prescription medications. The first question asked about changes in use of medications after the Health Promotion course. The proportion of participants who indicated an increase, decrease, or same number of actual prescription drugs taken at the posttest are reported in Figure 4. The data show that the treatment group indicated a significant increase in prescription medications taken compared with those in the control group, $X^2(2, N = 89) = 9.94$, $p < 0.01$. The second question regarding medications asked about adverse events related to medications. The proportions reporting no adverse reactions or yes, adverse reactions occurred are reported in Figure 5. The participants in the treatment group indicated significantly less adverse medication reactions than those in the control group, $X^2(2, N = 89) = 8.39$, $p < 0.00$.

Participants were also asked about perceived levels of support at posttest. The proportion of participants reporting more, less, or the same levels of support are reported in Figure 6. None of the participants indicated less support, so this was dropped from the figure. The participants in the treatment group indicated significantly more support than those in the control group, $X^2(1, N = 89) = 6.41$, $p < 0.01$.

Participants were then asked about non-automobile accidents that occurred during the 12-week period. The proportions of participants reporting none, one, two to three, or four or more accidents are reported in Figure 7. The participants in the treatment group indicated significantly fewer accidents than those in the control group, $X^2(3, N = 89) = 7.89$, $p < 0.05$. Especially important is in the area of four or more accidents: The control group had 5 people in this category, and the treatment group had none.

The final question that showed a significant difference was related to changing overall health habits during the 12-week period. The proportion of those reporting no changes in health habits occurred or yes, changes in health habits occurred is reported in Figure 8. Participants in the treatment group indicated that significantly more changes in their health habits occurred compare with those in the control group, $X^2(1, N = 89) = 6.62$, $p < 0.01$.

DISCUSSION
In this quasi-experimental study, we collected pretest-posttest data at two time points from older adults with early-stage dementia. The treatment group received an innovative Health Promotion course, and the control group received printed materials only. The older adults in the Health Promotion course significantly improved from pretest to posttest on cognition, depression, and several health behaviors. Surprisingly, several of the indicators of psychosocial well-being (i.e., self-efficacy, self-esteem, perceived stress, perceived quality of life) did not show significant change during this project. During the authors' pilot work, these indicators of well-being were significantly enhanced (Fitzsimmons & Buettner, 2003). The authors believe this Health Promotion course for individuals with dementia was a unique program offering that would have had even stronger statistical impact if the region had not experienced a natural disaster during the project. Due to a direct hit from Hurricane Charley, many of the control group participants were lost from the study, and only the healthiest older adults remained in the area for the posttest measures.

In addition, some of the evaluation tools did seem not capture the true impact felt by participants. One example of this phenomenon was in the area of "control over life." The course rating indicated participants believed the course helped them learn how to take control over their lives (9.8 of 10 on the Likert scale), but the Self-Efficacy Scale did not show a significant difference between groups and did not represent this experience. In the pilot study that led to this project, self-efficacy, quality of life, and self-esteem showed significant posi tive changes, so the authors were surprised by the lack of significant findings in this larger project.

Another area that deserves further explanation is the finding that the treatment group demonstrated an increased use of prescribed medications but at the same time showed a decrease in adverse reactions due to medications. The Health Promotion course provided detailed information on symptoms of infections and other problems older adults may not usually recognize. One possible explanation is the treatment group participants had a better understanding of health problems, symptoms that need treatment, and possible drug interactions that could

occur. It is important to note the control group had more prescribed medications than the treatment group at baseline, which may have affected this finding.

Researchers are now finding that cognitive stimulation is a powerful tool in the prevention and treatment of early-stage memory loss (Burgener et al., 2007). One of the important findings in this study was in the area of cognition and perceived memory. After 12 weeks, the treatment group showed a significant improvement on the MMSE, and an additional significant proportion reported they believed their memories had improved. Those in the control group showed the expected decline. This course, like most educational offerings, served as a form of mental stimulation that enhanced cognition for the treatment group.

Another encouraging finding was in the area of depression. Depressive symptoms are common in dementia, and in a review of studies of affective symptoms in dementia, the median frequency for depressed mood was 41% (Steffens et al., 2006). In the current study, the authors found significant reduction in the treatment group's depressive symptoms at the end of the Health Promotion course. The course provides information, support, and coping skills to help newly diagnosed individuals work through the shock and accompanying depression of this disease.

The area of perceived social support emerged as a significant finding that could have carry-over effects for participants. Many of the treatment group participants made friends with others in the course and have stayed connected over time. Several participants joined exercise groups with friends made during the program. The benefits of social support in aging are widely known, and this intervention created a new mechanism for this positive phenomenon to occur.

This Health Promotion course helped the treatment group participants make choices, plan their lifestyles, and shape the management of their chronic condition, which fits within the Trajectory Model that framed this project. The changes found in treatment group participants suggest that people with early- stage memory loss are capable of understanding that dementia is not just experienced as part of life; it must be managed and requires work by the person with the diagnosis.

LIMITATIONS
This study was not a randomized trial, thus the groups were somewhat different at baseline. The sample for this study primarily consisted of middle-income, Caucasian retirees in suburban retirement communities. The project took place during the worst hurricane season ever experienced in Florida, which affected the ability to collect follow-up data on 40 participants. These limitations influence the findings and the generalizability of the results. Additional research is needed to examine this course with more diverse communities. The impact of the Health Promotion course should be studied 1 year or more after completion to determine its long-term value. It would also be important to evaluate this intervention in a randomized trial with a much larger and diverse sample of rural, urban, and suburban individuals.

IMPLICATIONS FOR PEOPLE WITH EARLY-STAGE DEMENTIA
People with dementia describe it as an isolating and life-changing disease (Taylor, 2007). Even in the early stages, individuals lose their paid and volunteer jobs, the ability to drive, and connections with friends and family. They are at high risk for accidents and many secondary health problems. Current and past practices provided caregivers with health-related information and support groups, leaving the person with the diagnosis with few opportunities for self-initiated lifestyle changes. This Health Promotion course gave the information directly to the individuals with the diagnoses and asked them to make decisions and changes in their lives. The course also empowered them to provide the information to their families each week, which opened an important new avenue of communication. In addition, the participants made friends with others in the course, shared telephone numbers, and continued to stay connected long after the course ended. The significant change in socialization at posttest, and the highly significant change in perceived support that followed, provide evidence of these important findings.

CONCLUSION AND IMPLICATIONS FOR NURSING

As diagnostic tools continue to improve, people with dementia are identified earlier and live longer with this chronic condition. More than 100 years ago, Dr. Alzheimer detailed his findings of plaques and tangles, yet science has still not found a truly effective treatment, let alone a cure for Alzheimer's disease or related dementias. While researchers hunt for a cure, nurses must tend to the psychological and social effects that affect the patient from the very first day of diagnosis. Encouraging education for the person with the disease helps them make good decisions, reduces fear, and brings about acceptance.

Getting to know the individual during the weekly course sessions adds to the ongoing assessment the nurse completes. Nurses must make certain to provide time for the patient's voice and for questions to be heard and answered. Far too often, family members speak for the person with cognitive problems, assuming they know how the person feels, what he or she needs, and what is best for the person. This course demonstrates that individuals with early-stage dementia are capable of expressing themselves, making decisions, and learning new health behaviors.

Early-stage dementia interventions should be about the person who is diagnosed and should be made available in communities through clinics, wellness centers, and other agencies serving older people. Nurses who work in these agencies can help older adults through the many emotions that come with the diagnosis of dementia, while encouraging them to live life to the fullest and let their voices be heard. It makes sense to provide these individuals with a health promotion course that provides cognitive stimulation, social connections, and opportunities to make lifestyle changes that could change their future by compressing the period of dependence. With the looming demographics of dementia in our nation, this tested curriculum provides nurses and aging service professionals with an evidence-based toolkit to help improve the lives of older adults with this diagnosis.

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