

## Supplementary Material

**Article Title:** Effects of a Multicomponent Intervention for Older Adults at Risk of Dementia: A Randomized Controlled Trial

**Authors:** Pengfei Wang, MM; Tingting Yang, PhD; Wenjia Peng, PhD; Meng Wang, MPH; Xiaoli Chen, MPH; Yinghua Yang, PhD; Yanyan Huang, MM; Yihua Jiang, BPM; Feng Wang, MPH; Shuangyuan Sun, MPH; Ye Ruan, PhD; Yan Ding, MM; Ye Yao, PhD; and Ying Wang, PhD

**DOI Number:** 10.4088/JCP.23m15112

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### DISCLAIMER

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**The details of Cognitive training & Lifestyle guidance**

**Supplementary Table 1** The details of cognitive training and lifestyle guidance

Week	Intervention content	Training form	Time allocation
Week 1 Program introduction	1.1 Intervention course launch: introduction of the program leader	-	5 min
	1.2 Introduce the program process: the time schedule of each node	-	3 min
	1.3 Introduction to the program content: measurement and intervention	-	20 min
	1.4 Introduction of program participation rules: full participation	-	2 min
	1.5 Intervention warm-up activities: flower arrangement or toy assembly	-	30 min
Week 2 Cognitive training	2.1 Self-introduction of trainer: name, dress, etc.	-	2 min
	2.2 Manifestations of cognitive impairment: forgetfulness, disorganized thinking, etc.	education	6 min
	2.3 Connotation, process and classification of memory	education	6 min
	2.4 Objective memory assessment: short-term memory of ten words	education	10 min
	2.5 Brain-friendly aspects: the four elements of memory	education	10 min
	2.6 Attention training: “kitchen furnishings”	practice	10 min
	2.7 Ways to focus attention: quiet, planning, etc.	education and practice	20 min
	2.8 Explanation and practice of finger exercises: 2-3 times	education and practice	10 min
	2.9 Course Summary	discussion	10 min
Week 2 home tasks			
Smile practice (every morning before getting up); Keep practicing finger exercises once a day and any other physical exercise of participants’ choice (more than 30 minutes); Memorize the name and dress of the trainer; Practice 3 pages of brush writing every day.			
Week 3 Cognitive training & Diet guidance	3.1 Self-introduction of trainer: name, dress, etc.	-	5 min
	3.2 Review of last week’s home tasks	education	2 min
	3.3 Finger exercises: 2 times	practice	5 min
	3.4 Review of four elements of memory improvement: sleep, diet, exercise, and stress reduction	education	10 min
	3.5 Attention-Flash-Association Strategy, Visual mnemonic	education and practice	15 min
	3.6 Method of Loci: fixed location of item placement, etc.	education and practice	10 min
	3.7 Memory habits training: repeat confirmation, advance preparation, etc.	education	10 min
	3.8 Brain-healthy diet: danger of obesity, various nutrients, etc.	education	20 min
	3.9 Course Summary	discussion	10 min
Week 3 home tasks			
Smile practice (every morning before getting up); Keep practicing finger exercises once a day and any other exercise of participants’ choice (more than 30 minutes); Memorize the name and dress of the trainer; Remember movie titles (picture mnemonic); Record and share meals in a Wechat group any day of the week: (breakfast, lunch and dinner; snacks and water), either in pictures or words; Every participant introduces his/her name in class next week (consider how to get others to remember).			
Week 4 Cognitive training & Sleep guidance & Stress reduction guidance	4.1 Self-introduction of trainer: name, dress, etc.	-	2 min
	4.2 Review of last week’s course	discussion	5 min
	4.3 Review of last week’s home tasks	discussion	5 min
	4.4 Finger exercises: 1 time	practice	5 min
	4.5 Categorization mnemonic: classify things that contain common attributes	education and practice	10 min
4.6 Face-Name mnemonic: movie poster name memory	education and practice	10 min	
4.7 Stress management and meditation: stress release exercises, etc.	education and practice	10 min	
4.8 Healthy sleep, insomnia and treatment of insomnia	education	20 min	
4.9 Course Summary	discussion	10 min	
Week 4 home tasks			
Smile practice (every morning before getting up); Keep practicing finger exercises once a day and any other exercise of participants’ choice (more than 30 minutes); Memorize the name and dress of the trainer; Practice 3 pages of brush writing every day; Remember other participants’ names.			
Week 5	5.1 Self-introduction of trainer: name, dress, etc.	-	2 min
	5.2 Review of last week’s course	discussion	5 min

## Supplementary Material

Week	Intervention content	Training form	Time allocation
Cognitive training & Exercise guidance	5.3 Review of last week's home tasks	discussion	5 min
	5.4 Finger exercises: 1 time	practice	5 min
	5.5 Sentence mnemonic: stringing together the words to be memorized through sentences, visualizing them as much as possible	education and practice	20 min
	5.6 Story mnemonic: extension of the sentence mnemonics	education and practice	20 min
	5.7 "Poker 24 points" practice: take 4 cards and use "+ - × ÷" to calculate the number on each card to get 24	practice	10 min
	5.8 Exercise guidance and resistance band training	education and practice	20 min
	5.9 Course Summary	discussion	10 min
Week 5 home tasks			
Smile practice (every morning before getting up); Keep practicing finger exercises once a day and any other exercise of participants' choice (more than 30 minutes); Memorize the name and dress of the trainer; Practice 3 pages of brush writing every day; Flash memory of playing cards (record the most cards remembered for the week); Practice "Poker 24 points".			
Week 6 Cognitive training & Brain exercise	6.1 Self-introduction of trainer: name, dress, etc.	-	2 min
	6.2 Review of last week's course	group discussion	5 min
	6.3 Review of last week's home tasks	group discussion	5 min
	6.4 Finger exercises: 1 time	practice	5 min
	6.5 Digital mnemonic: harmonic method, image method	education and practice	10 min
	6.6 Body mnemonic: position fixed and ordered	education and practice	15 min
	6.7 Method of Loci: familiar places as a link	education and practice	10 min
	6.8 Left-right brain training: finger wrap, lupine lock	education and practice	10 min
	6.9 Course Summary	group discussion	10 min
Week 6 home tasks			
Smile practice (every morning before getting up); Keep practicing finger exercises once a day and any other exercise of participants' choice (more than 30 minutes); Memorize the name and dress of the trainer; Practice 3 pages of brush writing every day; Memorize Tang poems (3 pages per day); Practice Lupin locks until be proficient in disassembly and assembly; Make shopping lists (once a week).			
Week 7 Overall review	Review of every week's course; The four elements of memory; Visual mnemonic; Attention-Flash-Association Strategy; Sentence/Story mnemonic; Categorization mnemonic; Body mnemonic; Face-Name mnemonic	discussion	90min

### Attendance of the multicomponent intervention program

62 older adults in the intervention group were divided into three groups, with 59 older adults finished all intervention sessions (19 in group 1, 16 in group 2, and 24 in group 3). As shown in Table A2, the overall attendance rate of the participants was 92.01% over the seven-week intervention, with a high attendance rate of 93.23% in group 1, 95.54% in group 2, and 88.69% in group 3. Eight of these sessions had 100.00% attendance, and the total attendance rates was 92.01%.

**Supplementary Table 2** Attendance for older adults in intervention groups

Time	group 1, n (%)	group 2, n (%)	group 3, n (%)	Total, n (%)
Week 1	14 (73.68%)	16 (100.00%)	20 (83.33%)	50 (84.75%)
Week 2	19 (100.00%)	15 (93.75%)	20 (83.33%)	54 (91.53%)
Week 3	19 (100.00%)	13 (81.25%)	24 (100.00%)	56 (91.92%)
Week 4	18 (94.74%)	16 (100.00%)	23 (95.83%)	57 (96.61%)
Week 5	17 (89.47%)	15 (93.75%)	19 (79.17%)	51 (86.44%)
Week 6	19 (100.00%)	16 (100.00%)	22 (91.67%)	57 (96.61%)
Week 7	18 (94.74%)	16 (100.00%)	21 (87.50%)	55 (93.22%)
Total	124 (93.23%)	107 (95.54%)	149 (88.69%)	380 (92.01%)