Memory Goals of Older Adults using a Simple Memory Tool

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Introduction

Memory difficulties can affect all older adults, including older adults who may be subject to the memory changes of normal aging or pathological decline such as Mild Cognitive Impairment (MCI), Alzheimer's disease or other dementias [1].

Impact

In Canada, there is approximately a cost of $33 billion per year associated with dementia [3]. Economic evaluations support that delaying progression of decline (e.g., delaying moving to nursing homes) is the cost-effective way to support people with Alzheimer's disease [8]. In order to delay the progression of decline, there needs to be cognitive and memory research that can assist with such efforts.

Cognition and Memory Interventions

Many studies have focused on cognitive training for people with normal cognition and cognitive impairment [6].

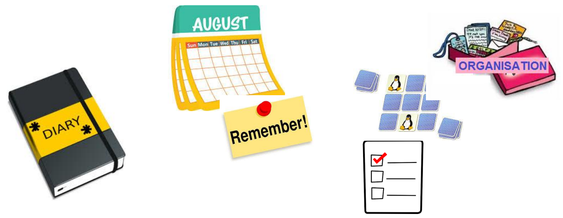
There are typical patterns that are found in interventions. There are:

- Limited number of sessions (e.g., 1-8 sessions)
- Two groups (i.e., treatment and control groups)
- Training such as memory recall (e.g., stories), memory recognition (e.g., faces), or mnemonics
- Outcomes that are measured with standard cognition tests (e.g., The Montreal Cognitive Assessment (MOCA)) or self-reports

Memory Strategies

Memory strategies can be found in books that are intended for:
•people who want tips to assist them with their own memory
•people who are caregivers who support people with cognitive impairments

The memory strategies often discuss simple tips such as the use of diaries and calendars [2]. However, readers may have difficulty with taking the tips and coming up with goals and plans to use the tips. Furthermore, many of these strategies may be absent from memory interventions [6].



Teaching Tips
•short commands
•simple language
•moderate speech rate
•tasks broken up into simple steps
•recognition rather than recall
•positive stimuli
•(e.g., happy faces)
•location free of distractions

Learning Tips
•many repetitions
•few items at a time
•avoid multi-tasking
•accessible written instructions

Props
•labels on objects
•clocks and bulletin boards that are large
•pictures used as labels when reading fails
•important information written on cards in pocket

Objectives

The objectives are:
1) to understand what the memory goals of older adults are; and,
2) to examine if a Simple Memory Tool would assist with attaining memory goals.

Methods

Design

The study used a mixed methods design. Qualitative methods were used to identify participants' memory goals (objective 1). A quantitative, mixed design with cognition (normal, MCI) as the between-subjects factor and session as the within-subjects factor was used to assess whether a Simple Memory Tool would enhance goal attainment (objective 2).

Sample

- 28 total participants
- 19 participants with normal cognition and 9 participants with MCI as determined based on the Montreal Cognitive Assessment (MOCA) [7]
- Age range 57-96

Determination of Goals

Goals were identified using semi-structured interview questions, including:

- Do you have any memory difficulties?
- What areas of memory do you think could benefit from improving?
- What are you interested in remembering?
- Describe to me some of the things that you do in a typical day.

Simple Memory Tool

The Simple Memory Tool involved identifying memory difficulties, setting goals, determining strategies, and working on the goals on a weekly basis.

Measures

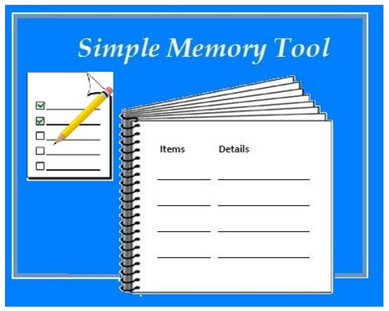
- The Goal Attainment Scaling (GAS) was used to assess goal attainment [4]. The GAS is a method that enables participants to provide their own assessment of their performance for goal attainment using a Likert Scale. It measures the extent to which participants' goals are achieved in the course of an intervention.
- A variety of other measures were also used, including a demographics questionnaire, a memory recall test, the Prospective and Retrospective Memory Questionnaire (PRMQ), and a feedback questionnaire [9].

Procedure

The study consisted of 3 weekly sessions for each participant, where the participant met individually with the researcher (Daniel Saltel). During the sessions, participants collaborated with the researcher to set goals and strategies for memory. In between the sessions, the participant worked on their memory goals.

Data Analysis

• Data from semi-structured interview questions were analyzed to identify common themes.
• Data regarding the goal attainment using the GAS was analyzed using descriptive statistics



Results

Thematic Analysis of Goals

There were four major themes for types of goals:

- **Social goals**. There was a focus on utilizing memory for the benefit of other people (i.e., immediate people in participant's life or society)
- **Focusing on the positive.** The focus was on choosing what was to be remembered or reminders to benefit feelings or mood
- **Staying healthy**. These goals had a focus of benefitting health by remembering to do tasks or remembering information that could benefit health
- **Managing day-to-day activities**. Remembering tasks and information (e.g., avoiding forgetting and errors)

Examples

Examples of goals in each of the four themes:

Social
•Remembering names
•Remembering birthdays
•Keeping diaries of conversations
•Sharing memory strategies that were learned with other people who have the same situation (e.g., other people who have memory fog and have Sjogren's)

Focusing on the positive
•Remembering positive memories
•Remembering things to be thankful for

Staying healthy
•Planning diet plan (diary of food that was consumed, plan to remember what types of foods to eat, remembering cues and triggers to eating)
•Recording diary to keep track of health related information for doctors

Managing day-to-day activities
•Remembering grocery lists
•Remembering to take medication
•Remembering why went into room
•Developing strategies for summarizing and remembering information while reading

Goal Attainment

- The findings support that the Simple Memory Tool was effective for assisting with goal attainment.
- Overall, performance was better for participants with normal cognition.
- 77% of the goals were 'achieved as expected' or better

Table Goal Attainment

	Much more (+2)	Somewhat more (+1)	Achieved (0)	Between (-.5)	Somewhat less (-1)	Much Less (-2)	Total
Goal 1	4	8	10	1	5	0	28
Goal 2	5	7	11	1	4	0	28
Goal 3	4	5	12	0	7	0	28
Goal 4	2	3	15	0	8	0	28
Sum	15	23	48	2	24	0	112
(%)	13%	21%	43%	2%	21%	0%	100%
Tot. (%)	13%	34%	77%	79%	100%	100%	

Goals Attainment Success

There were higher ratings for goal attainment when:

- Goals built upon goals from previous sessions (e.g., session 1 - remember names in building, session 2 - remember names of relatives)
- Goals were specific (e.g., checklist plan for memory fog)
- There were less distractions that were not related to the study (e.g., personal matters such as vacations)
- Participants started goals early in the week between sessions

Discussion

Themes of Goals

There was a theme of basic day-to-day needs (e.g., remembering grocery lists) and many of the strategies that participants chose were in alignment with what is recommended in memory strategy books (e.g., use diaries, calendars, practice, repetition) [2].

Another theme was focusing on the positive, which is in alignment with the recommendations of psychology. For example, cognitive behavior therapy (CBT) is used by psychologists to assist people with choosing their thoughts to improve well-being [10].

Another theme was staying healthy and this is in accord with memory researchers recommendations that lifestyle behavior has an impact on memory and well-being [11].

Many of the goals had the social theme, which suggests that social relationships can be a motivating factor to maintain or improve memory.

The specific goals that were chosen (e.g., remembering foods, remembering birthdates) do not correspond to the types of activities that are found in most memory interventions, which suggests that memory interventions need to be tailored to the daily needs of participants rather than focusing on lab tasks [5].

The consideration of these four themes might be useful in the designing of memory interventions for older adults because these themes may provide an indication of what is important to older adults to remember.

Goal Attainment

Most participants accomplished their goals. Many participants provided informal feedback that the study was motivating them to work on goals. There was better performance for the group with normal cognition.

The Simple Memory Tool addressed researchers recommendations for goals to have: a) individualized goal setting; b) learning and practice; c) planning for strategies; d) attainable number of goals (e.g., 2 goals per session); and e) possible adaptation to goals (e.g., revise weekly) [7].

Feedback

Many participants were very enthusiastic about the study and said that it provided motivation to work on goals.

Conclusions

The Simple Memory Tool could be beneficial for older adults to achieve memory goals.

There is a lack of memory related interventions that focus on participant's daily life activities [5]. Interventions that are in direct alignment with the needs that are reported by participants and that can possibly be cost-effective are greatly needed.

Strengths and Limitations

Strengths

•Participants chose their own memory related goals
•Goals corresponded to participant's daily life activities
•The study included participants with normal cognition and MCI

Limitations

•Absence of a control group that did not use the Simple Memory Tool
•Small sample size
•The intervention was individualized and may not generalize to a sample that is more representative of the population
•Limited number of sessions without long-term follow-up

Future Research

Future research might involve:

- Developing a manual for the Simple Memory Tool (e.g., including common goals, common strategies, adaptation tips)
- Developing workshop class format of the study
- Using the Simple Memory Tool with an increased number of sessions or long-term follow-up

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