

The humble, paper-based booklet as a method to deliver mental stimulation to seniors at home: Insights and preliminary results of piloting

Moza, Sotiria^{1a}, Chrysostomou, Savvina^{1b} & Tziannarou, Antonia²

1 Noesis Cognitive Center & Tech Solutions Ltd, Kifisias 9, 2480, Nicosia, a sotiria@noesis.cy, b savvina@noesis.cy

2 Materia Group, Athalassis 41, 2221, Nicosia, Cyprus, antonia@materia.com.cy

INTRODUCTION

Despite the increased digitalization in the modern era, healthcare professionals still rely on paper-and-pencil exercises as a part of their cognitive training sessions or provided as homework for their patients (Kang et al., 2019). Those exercises typically focus solely on cognitive tasks.

This study aims to introduce a holistic approach developed as part of a research programme to stimulate not only cognitive domains but also mood, physical activity and other functions provided through a single, paper-based booklet and examines the outcomes of a 60-day training program, self-administered by older adults in their own homes.

METHODS

The booklet was developed as part of the ReMember-Me project co-funded by the AAL Programme. It comprised 100 pages with cognitive exercises tapping working memory (example 1), visuospatial memory (example 2), language (example 3), attention and information processing speed (example 4) and executive function (example 5). The booklet also included pictures-manuals for home exercises (sitting or standing), scripts for mindfulness and QR codes linked to classical music and relaxing sounds.

Seventy older adults from Belgium, Cyprus, Italy, and Romania participated in the study (Mean age = 73.80 ± 6.89 years, 60% female, 42.9% with mNCD, Mean years of education = 12.94 ± 4.01). Over a period of 60 days, participants received a booklet containing multidomain cognitive exercises, mindfulness and meditation scripts, classical music playlists and leaflets containing lifestyle recommendations for physical, social, and psychological well-being, sourced from policy guidelines (e.g., by the World Health Organization).

Pre- and post-intervention assessments were conducted using the Stroop-type color-word test (Jensen & William, 1966), the Geriatric Depression Scale (Sheik & Yesavage, 1986), and the De Jong Gierveld Loneliness Scale (De Jong Gierveld & Van Tilburg, 2010).

RESULTS

Repeated measures ANOVA analyses revealed statistically significant improvements post-intervention in Stroop Color-Word [F(1,38)=5689, $p=.028$, Mean Day 1= 31.23 ± 13.38 , Mean Day 61= 33.15 ± 14.76] and Word conditions [F(1,38)=6742, $p=.012$, Mean Day 1= 79.72 ± 18.8 , Mean Day 61= 82.13 ± 19.1], as well as reductions in GDS scores [F(1,69)=5995, $p=.017$, Mean Day 1= 3.29 ± 2.73 , Mean Day 61= 2.66 ± 2.69] and DJG scale scores [F(1,29)=10366, $p=.002$, Mean Day 1= 6.61 ± 1.71 , Mean Day 61= 5.47 ± 2.70].

CONCLUSIONS

The findings suggest that paper-based approaches featuring exercises designed to holistically target physiocognitive function could offer advantages for older adults. It's important to acknowledge potential biases stemming from participant expectations and their interactions solely with researchers, potentially influencing socialisation and mood. Nevertheless, our results hold significance within the context of cost-effective interventions for community-dwelling individuals.

1. Memorising lists of words

List 1		
Beach	Swimwear	Sunscreen
Umbrella	Boat	Hammock

2. Filling grid from memory

+	+	+			
	+		N	N	N
	+			N	
				N	

3. Cancellation



4. Odd one out

Chair Closet Soap Sofa Table Book

5. Dual task (colour shapes & list names)

