



# INTERVENTION PROGRAM OF OCCUPATIONAL THERAPY TO PROMOTE PERSONAL AUTONOMY

Tofiño García, M.<sup>1</sup>; Molás Robles, R.<sup>1</sup>; Pérez Sáez, E.<sup>2</sup>; Cabrero Montes, E.<sup>2</sup>

(1) Occupational therapist, (2) Neuropsychologist

National Reference Centre for Alzheimer's and Dementia Care (CREA). Imserso | Contact email: info@crealzheimer.es

## INTRODUCTION

The functional dependency produced by dementia is often confused with the lack of autonomy. This may cause the intervention of different professionals to affect the self-determination of the person, which may even increase their dependency.

The loss of autonomy and functional decline implies, in many cases, early institutionalization of the person with dementia (PwD). It means a suffering factor for the patient and his family, as well as an increase in the costs of the formal and the informal care systems. It is known that among the most influential causes for institutionalizing are dementia diagnosis and having difficulties in carrying out basic and instrumental activities of daily living (ADL) (Gnjidic, et al., 2012).

That is why it is necessary to know if an early intervention in functionality following the principles of the Model Of Human Occupation (MOHO) (Kielhofner, 2004), can delay the use of long term care resources and keep PwD at home longer, having the best quality of life as possible. MOHO explains the intervention strategies based on the Person-Centred Care (PCC), highlighting the use of biographical information, posing the occupation as a significant activity from the perspective of the PwD, personalising the environment and letting the person decide the activities he / she wants to do.

### Hypothesis:

The participation in the program:

- will help to keep PwD at home maintaining his functionality level.
- will improve the communication skills of PwD.
- will increase the quality of life (QoL) of PwD.
- will decrease the behavioural and psychological symptoms of dementia (BPSD).

## METHODS

### Procedure

The study used a repeated measures design with no control group. A follow-up phase after 6 and 12 months, when the program finished, was carried out to assess the global functioning at home (only the results of the follow-up in the sixth month are presented).

The intervention phase was carried out in three editions in groups of 10 people, for a period of time of 6 months, and during the day.

The cohabitation unit designed for the intervention was prepared to be similar to a household, with a fully equipped kitchen, a dining room and other comfortable and personalized rooms.

The design and coordination of the intervention was carried out by occupational therapists and, for the work program, auxiliary nurses with previous and specialized training.

An individual attention plan (IAP) was made together with PwD, establishing the objectives and the performance plan in a consensual manner.

The intervention programs were based on:

- Basic maintenance: creating habits and routines directed to do self-care activities in an autonomous way.
- Acquisition and maintenance of responsibilities and community roles: creating habits and routines that improve the performance of instrumental activities of daily living in the person's environment and the maintenance of the roles.
- Leisure and social or community participation: activities that are part of advanced ADL and must be included in the daily routines.
- Social environment: activities aimed at training families and caregivers in the capacities and limitations of PwD.
- Physical environment: assessment and guidelines to improve or support the autonomy at home.

### Participants

The participants were selected according to the following inclusion criteria:

- People with mild to moderate cognitive deterioration (GDS 3-4) and living at home.
- Independent people for basic ADL and that continue participating in the housework and have independence for two or more instrumental ADL.

Table 1 Sociodemographic and clinical specifications.

	Overall Sample
n	29
Age	80.52 (6.34)
Range	63-92
Sex M/F	9/20
GDS	3.86
MMSE	21.66 (2.91)
Barthel Index	98.10 (4.31)
IADL	3.69 (1.79)

Note. GDS: Global Deterioration Scale.

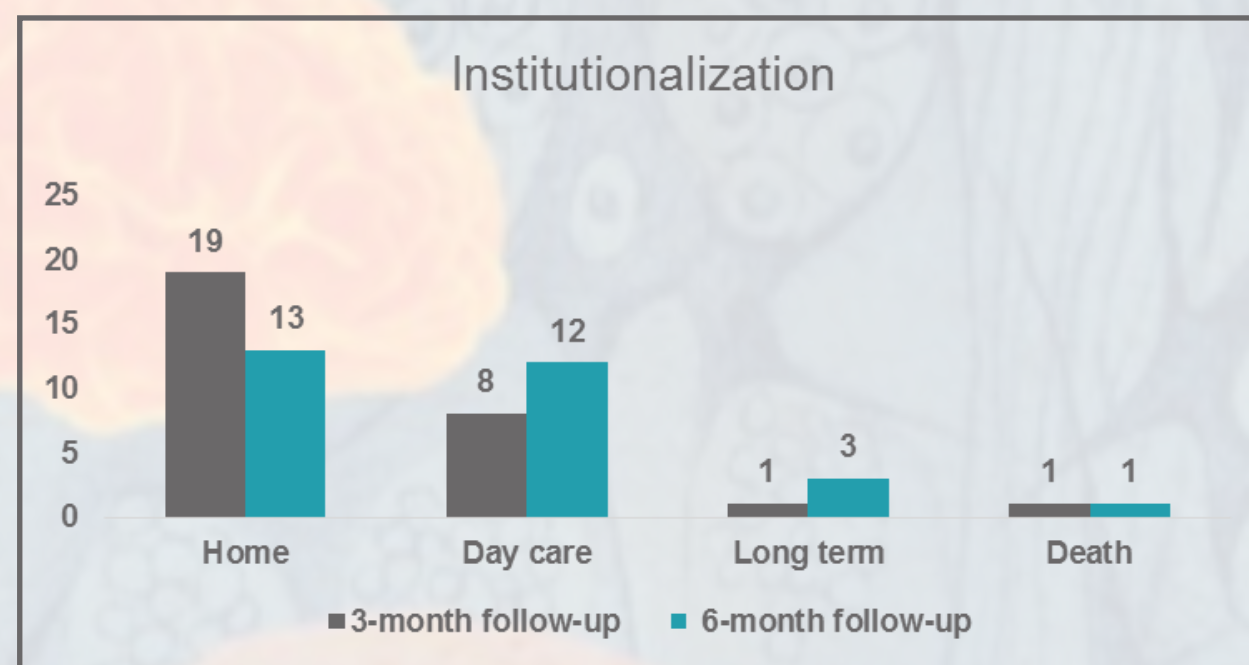


Figure 1. Institutionalization at 3 and 6-month follow-up.

### Materials

Each participant was assessed at the beginning and the end of the intervention phase using the following scales. An assessment at home was carried out to get information and analyse the environmental aspects that could interfere with the occupational performance, and to evaluate the possibility of home adaptations.

Table 2 Sociodemographic and clinical specifications.

Main outcomes	Instrument	Application
Occupational performance	Barthel Index (IB) (Bazán, González, y del Ser, 1994)	Pre and post intervention and follow-up for 6 and 12 months
	Lawton and Brody Scale (LBS) (Lawton & Brody, 1969)	
	Interview for Deterioration in Daily Living Activities in Dementia (IDDD) (Teunisse et al., 1991)	
Cognition	Mini-Mental State Examination de Folstein (MMSE) (Folstein et al., 1975)	Pre and post intervention and follow-up for 6 and 12 months
Neuropsychiatric symptoms	Yesavage's Geriatric Depression Scale (GDS-15) (Yesavage, 1983)	
Overall Quality of Life and health	Neuropsychiatric Inventory Questionnaire (NPI-Q) (Cejudo, 2002)	Pre and post intervention
	Quality of Life-Alzheimer's Disease (QoL-AD) (Logsdon, Gibbons, McCurry, & Teri, 1999)	
	Quality of Life Scale related with health Coop-Wonca (Van Weel, 1993)	

## RESULTS

The participants attended 90% of the days of the intervention program. The results for the main variables were obtained from 27 people because 2 of the users did not continue with the follow-up.

Table 3 Pre, post and follow-up means (and standard deviation) of the main variables (n=27). Results of the repeated measures ANOVA and pairwise comparison.

		Pre M (SD)	Post M (SD)	6m M (SD)	df	F	p	$\eta_p^2$	Pre vs. Post p	Pre vs. 6m p	Post vs. 6m p
Functional status	Barthel	98.15 (4.42)	97.96 (5.05)	96.48 (7.05)	2,52	2.673	.079	.093	1.000	.177	.264
	IADL	3.85 (1.69)	4.50 (1.42)	3.96 (2.03)	2,52	3.369	.042*	.119	.020*	1.000	.136
	IDDD	48.54 (7.78)	48.04 (10.12)	49.06 (10.66)	2,52	0.111	.860	.004	1.000	1.000	1.000
Cognition	MMSE	21.67 (2.94)	22.44 (4.10)	20.22 (4.44)	2,52	3.658	.033*	.123	.823	.384	.050
	CoopWonca	22.59 (3.80)	17.41 (4.04)	19.56 (4.34)	2,52	21.488	.000*	.452	.000*	.009*	.003*
QoL	QoL-AD	33.93 (4.22)	39.81 (4.41)	38.11 (4.60)	2,52	23.753	.000*	.477	.000*	.001*	.079
	GDS-15	4.00 (2.51)	2.00 (1.88)	1.56 (1.85)	2,52	10.733	.001*	.292	.008*	.004*	.651
BPSD	NPI-Q Severity	7.26 (4.46)	5.07 (4.04)	3.44 (3.17)	2,52	11.530	.001*	.307	.000*	.001*	.259
	NPI-Q Distress	9.37 (7.68)	6.26 (6.72)	4.15 (4.69)	2,52	7.128	.007*	.215	.002*	.016*	.506

\*p < .05

Table 4 Pre and post intervention means (and standard deviation) of the secondary variables (n=29). Results of the t-test for dependent samples.

Outcome	n	Pre M (SD)	Post M (SD)	t(28)	p	95% CI	LL	UL	d
Communication	ACIS	29	56.62 (11.37)	71.07 (7.48)	-12.135	.000*	-16.887	-12.009	1.247
	Holden	29	16.66 (6.37)	6.52 (4.56)	12.170	.000*	8.432	11.844	1.721
OSA	OSA Competencia	29	82.90 (6.49)	89.96 (9.18)	-4.746	.000*	-9.972	-3.959	0.848
	OSA Valores	29	78.28 (8.92)	82.21 (12.56)	-2.200	.036*	-7.591	-0.271	0.344

Note. CI = confidence interval; LL = lower limit, UL = upper limit.

\*p < .05

### Occupational task

- Significant improvement in instrumental ADL at the end of the program.
- Improvement in the self-assessment of the person about his occupational performance.
- Maintenance of the ability of self-care.

### Institutionalization

- At 6 month follow-up 86% of participants stay at home.

### Cognition and communication

- Significant improvement at the end of the program in communication and interaction in the two instruments used.
- Maintenance of the cognition at the end of the program, measured by the MMSE.

### BPSD

- Improvement at the end of the program, and maintenance at 6m follow-up, in depressive symptoms, although the scores doesn't show any clinical pathology.
- Improvement at the end of the program in severity and stress of the neuropsychiatric symptoms that is maintained at the 6m follow-up.

### QoL

- Significant increase in the perception of the overall QoL at the end of the program that is maintained at the 6m follow-up.

## CONCLUSIONS

The intervention program has generated positive results for the participants at functional, cognitive, affective and communicative level, as well as the perceived QoL after six-month and a delay in permanent institutionalization. We are waiting for the final results of the 12-month-follow-up program, which will provide long-term information.

These findings support the idea that personalized attention and group activity, based on regular daily activities and community integration, maintain and recover roles allowing PwD to provide meaning to their lives. The intervention program through the basis of MOHO provides benefits in the assessed areas, and confirms that AVD and home environment intervention is effective and convenient to avoid early institutionalization.

These results show that the program can be useful for mild-stage PwD, advising and training the families on the promotion of autonomy and teaching them how to give the necessary support to the affected person when the dependency advances, avoiding early functional deterioration. The obtained findings highlight the need for more research in this direction, considering interesting to be able to compare this intervention model with a more traditional intervention using a controlled design.

## REFERENCES

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