Prevalence and Factors Related to the Use of Occupational Therapy (OT) in Nursing Home (NH) Residents in 7 European Countries and Israel

Stodolska A (1), Drapała N (1), Barańska I (1), Jagielski P (1), Ziuziakowska A (1), Sekulak K (1), Kijowska V (1), Joling KJ (2), Fialová D (3,4), Pokladnikova J (3), Hoogendijk EO (5), van Hout HPJ (5), Kooijmans ECM (5), Hoogendoorn M (6), Szczerbińska K (1,7) for the I–CARE4OLD H2020 project

1 The Chair of Epidemiology and Preventive Medicine, Jagiellonian University Medical College, Kraków, Poland 2 Department of Medicine for Older People, Vrije Universiteit Amsterdam, Amsterdam UMC, Amsterdam, the Netherlands; 3 Department of Social and Clinical Pharmacy, Faculty of Pharmacy in Hradec Králové, Charles University in Prague, Czech Republic; 4 Department of Geriatrics and Gerontology, 1st Faculty of Medicine, Charles University, Prague, Czech Republic; 5 Department of General Practice, Vrije Universiteit Amsterdam, Amsterdam UMC, Amsterdam, the Netherlands; 6 Department of Computer Science, Vrije Universiteit Amsterdam, Amsterdam, The Netherlands; 7 University Hospital, Jagiellonian University Medical College, Kraków, Poland

Background & Aim

OT has been acknowledged to provide beneficial effects on performance in daily activities and cognitive function. However, clinical indications for OT are not consistent and there are many factors that might influence its use. The aim of the research is to assess the prevalence of OT among NH older residents and to describe the profiles of the residents receiving OT.

Material & Methods

We used the data collected between 2009 and 2010 with the interRAI-LTCF tool in the SHELTER project to estimate the prevalence and factors associated with the use of OT in 4062 NH residents aged 60 and more in seven European countries and Israel. OT was defined as therapeutic services that are provided or directly supervised by a qualified occupational therapist. We used chi–square test to assess which factors were associated with more frequent use of therapy (Table 2). Decision tree analyses were used to describe the profiles of patients who were more often receiving OT (Table 3).

Table 1. Characteristics of NH residents

COUNTRY / VARIABLES	FR	IL	CS	IT	DE	NL	FI	EN	p
age *(mean, %)*	87.3	82.7	81.8	84.2	84.8	82.5	85.0	85.0	<.001
female gender *n (%)*	374 (75.9)	399 (72.3)	358 (73.1)	395 (73.8)	390 (79.3)	356 (68.6)	362 (75.1)	360 (72.1)	.013
poor functional status (ADL ≥3) *n (%)*	329 (67.0)	428 (77.5)	307 (62.7)	380 (71.4)	283 (57.6)	317 (61.1)	356 (74.6)	412 (82.6)	<.001
severe dementia (CPS >4) *n (%)*	241 (49.1)	281 (52.8)	157 (32.3)	205 (40.1)	148 (30.1)	121 (23.3)	141 (29.5)	172 (34.5)	<.001
depression (DRS >2) *n (%)*	171 (34.8)	162 (30.5)	140 (28.8)	187 (36.6)	103 (21.0)	207 (39.9)	170 (35.9)	160 (32.1)	<.001
health instability (CHESS = 2-5) *n (%)*	130 (27.1)	39 (7.6)	170 (35.6)	64 (12.7)	82 (17.0)	139 (28.3)	101 (22.3)	83 (17.1)	<.001

FR, France; IL, Israel; CS, Czech Republic; IT, Italy; DE, Germany; NL, The Netherlands; FI, Finland; EN, England
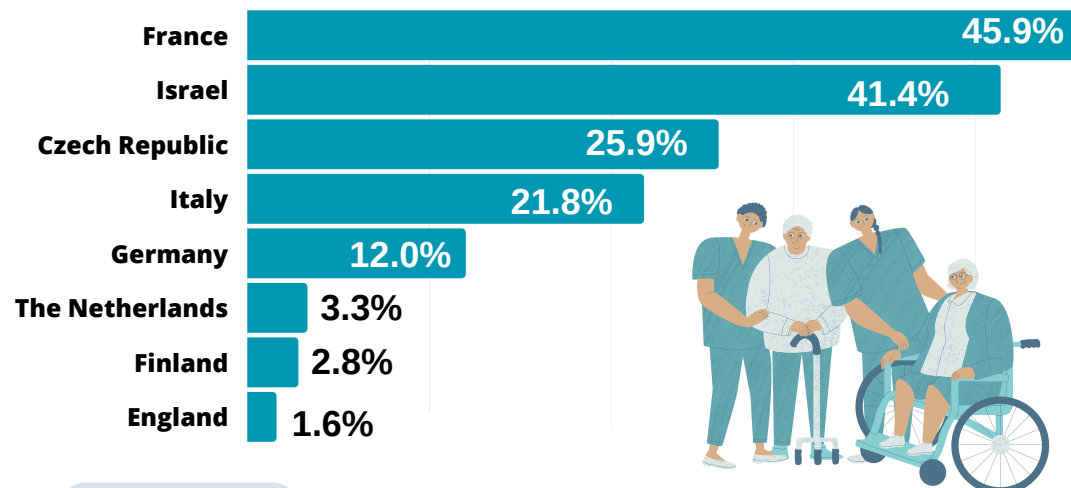
Table 2. Factors associated with receiving OT – univariable analysis*

VARIABLE	↓ OT prevalence	↑ OT prevalence
poor functional status (ADL ≥3)	FI	DE, FR
depression (DRS >2)		FR, IT
severe dementia (CPS >4)	CS, EN	DE, FR
social withdrawal	FR	IT
social engagement (sRISE)	DE	CS, FR, IL
fatigue	CS	FR
coma	IL, IT	
any symptoms		DE, FR
flare-up		DE, FR
aggressive behaviour (ABS)	IL, IT	DE, FR
psychiatric symptoms		DE, IT

*based on chi-square test; ↓ lower prevalence, ↑ higher prevalence
Other variables were also considered: hemi-, para-, or quadriplegia (FR↑), stroke (FR↑), severe Alzheimer (IT↑), other psychiatric symptoms (CS↓), any fracture (EN↓), unsettled relationships (CS↓), pain (IT↓), health instability (CHESS=2-5) (FR↑).

Figure 1. Use of OT by NH residents in the countries participating in the SHELTER study

France	45.9%
Israel	41.4%
Czech Republic	25.9%
Italy	21.8%
Germany	12.0%
The Netherlands	3.3%
Finland	2.8%
England	1.6%

Results

The basic characteristics of the patients are presented in Table 1. Figure 1 demonstrates large differences in OT prevalence between the analyzed countries: from 1.6% in UK to 45.9% in France. Also, factors associated with the frequency of OT varied greatly, e.g. severe dementia was associated with lower use of OT in Czech Republic and UK, but higher use in Germany and France (Table 2). The tree analysis showed that in Czech Republic, OT was most often provided to residents who were maximally socially engaged (42.8%) which is different from other countries (Table 3). In Germany, OT was provided more often to residents with dementia (18.7%) and to residents without dementia, but with poor functional status (16.4%). The highest OT prevalence was observed in Israeli residents who were independent or moderately dependent and were maximally socially engaged (76.9%). In some countries, it was difficult to clearly define the residents' profiles due to small numbers of those receiving OT or missing data.

Table 3. Results of the tree analysis

Country	Nodes (profile of patients more likely to receive OT)	Total sample N	Total sample OT %	Node N	Node OT %	Gain Index %
CS	max social engagement (sRISE)	490	25.9	138	42.8	165
DE	dementia	442	12.0	203	18.7	156.1
	no dementia & poor functional status (ADL=4-5)			61	16.4	136.7
IL	independent or moderately dependent in ADL + max social engagement	551	41.4	78	76.9	185.9
	severely dependent in ADL + max social engagement			151	49.0	118.4
IT	Alzheimer's disease	458	21.8	88	39.8	182.2
	pain + no Alzheimer's disease			83	28.9	132.4
	psychiatric symptoms + no pain + no Alzheimer's disease			60	28.3	129.8

Note: FR excluded from the analysis due to large number of missing data (65%).
No significant nodes were obtained for EN, FI, NL.

Conclusions

The study results might be helpful in defining clinical indications for OT, as well as in establishing recommendations for the use of OT in patient's care.

Contact: agata.stodolska@uj.edu.pl