Cross-country Diversity of Factors Associated with the Use of Physical Therapy in Nursing Homes

Drapała N (1), Barańska I (1), Stodolska A (1), Jagielski P (1), Ziuziakowska A (1), Sekulak K (1), Kijowska V (1), Joling K. J (2), Hoogendijk E. O (3), Hout H. P. J (3), Kooijmans E.C.M (3), Hoogendoorn M (4), Fialová D (5,6), Pokladnikova J (5), Szczerbińska K (1,7)

JAGIELLONIAN UNIVERSITY MEDICAL COLLEGE

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Background

Physical therapy (PT) is a key therapy to improve independence of nursing home (NH) residents. There are clear clinical recommendations when PT should be administered. However, there is insufficient data about its use in the NH.

Aim

To describe the profiles of NH residents who were administered PT most often in 7 EU countries and Israel.

Methods

The interRAI-LTCF tool was used to assess the prevalence and factors associated with the use of PT. The data were collected from 4062 NH residents aged 60 and over in 8 countries participating in the SHELTER project. PT was defined as therapeutic services that are provided or directly supervised by a qualified physical therapist. Decision trees analysis was applied to find factors associated with higher frequency of PT use. The analysis was supported by the I-CARE4OLD project (HORIZON2020 – GA965341).

Results

We observed large differences in the use of PT between countries (9.0% in the United Kingdom; 67.3% in Italy). For example, in Italy PT was most often provided to residents with dizziness (81.1%) or to residents without dizziness but also without foot problems limiting walking who did not resist care (74.1%); in Israel – to residents with high frailty index and dizziness (84.0%); in the Netherlands PT was administered the most often to residents with standing difficulties, who were cognitively intract or had mild cognitive impairment and did not report severe pain (72.2%).

Conclusions

Even though clinical indications for PT seem to be well established, they are not used in a consistent way in NHs across countries. Recommendations should be developed to improve PT accessibility and to justify its use.

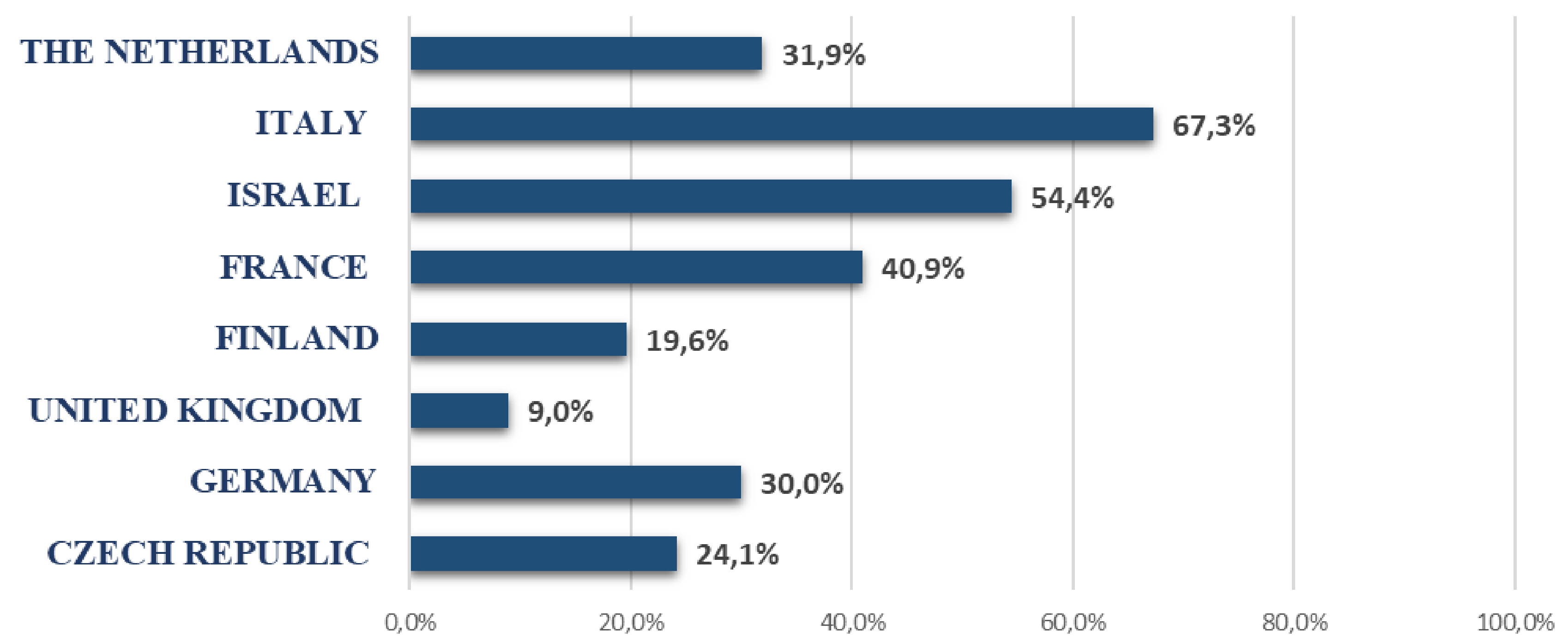### Fig.1 Use of PT by NH residents in countries participating in the SHELTER study.

Country	PT %
THE NETHERLANDS	31,9%
ITALY	67,3%
ISRAEL	54,4%
FRANCE	40,9%
FINLAND	19,6%
UNITED KINGDOM	9,0%
GERMANY	30,0%
CZECH REPUBLIC	24,1%

Fig. 2 Characteristics of NH residents (SHELTER study).

Characteristics of the Study Sample n=3716	NL n=517	IT n=514	IL n=551	FR n=257	FI n=439	EN n=498	DE n=450	CS n=490	p
Gender, female (%)	68.7	74.1	72.2	77.8	75.4	72.3	78.7	73.1	.559
Age (%)									
60-69	7.7	6.0	10.9	2.3	3.0	4.8	4.7	9.0	
70-79	27.7	22.0	21.6	14.0	21.6	22.9	18.7	24.7	.552
80-89	47.0	48.6	44.3	43.6	47.2	44.4	52.7	56.9	
90+	17.6	23.3	23.2	40.1	28.2	27.9	24.0	9.4	
Fracture (%)	9.3	4.3	1.5	1.6	3.9	3.0	0.9	7.3	<.001
Hemi-, Para-, Quadri-plegia (%)	14.7	17.3	14.5	17.5	5.4	9.8	10.2	12.4	<.001
Stroke (%)	28.6	21.2	24.3	23.7	9.0	25.7	20.3	27.8	<.001
Dizziness (%)	26.1	30.9	26.3	3.9	23.7	6.6	35.8	40.2	<.001
Fatigue (%)	37.3	21.8	16.4	44.0	29.3	22.1	20.4	30.4	<.001
Difficulty standing (%)	51.5	62.6	52.8	63.4	63.6	73.9	47.6	35.5	<.001
Severe cognitive impairment(CPS >4) (%)	15.9	37.2	49.7	43.6	16.9	28.6	29.8	23.3	<.001
Poor functional status ADL>3 (%)	37.7	55.3	58.6	50.6	46.3	70.7	37.3	48.4	.028
CHESS scale(2-5) (%)	28.4	12.5	7.6	19.8	22.8	17.1	17.4	35.6	<.001

NL – THE NETHERLANDS, IT – ITALY, IL – ISRAEL, FR – FRANCE, FI – FINLAND, EN – UNITED KINGDOM, DE – GERMANY, CS – CZECH REPUBLIC, CPS – COGNITIVE PERFORMANCE SCALE, ADL – ACTIVITIES OF DAILY LIVING, CHESS – THE CHANGES IN HEALTH, END-STAGE DISEASE AND SIGNS AND SYMPTOMS (SCALE DETECTS FRAILTY NAD HEALTH INSTABILITY)

Fig. 3 Results of decision tree for PT administering to NH residents (SHELTER study).

Country	Nodes (profile of patients more likely to receive PT)	Total sample N	Total sample PT %	Node N	Node PT %	Gain Index %
NL	difficulty standing + mild or no CI (CPS<3) + less than daily pain or daily pain but not severe	517	31.9	75	72.0	225.6
	difficulty standing + mild or no CI (CPS<3) + daily severe pain or no pain			65	43.1	135.0
	difficulty standing + moderate or severe CI (CPS>=3) + adequate hearing			59	39.0	122.1
IT	dizziness	514	67.3	159	81.1	120.5
	no dizziness + no foot problems or limiting walking + no resist care			170	74.1	110.1
IL	severely frail (FI>0.455) + dizziness	551	54.4	81	84.0	154.2
	severely frail (FI>0.455) + no dizziness + severely dependent (ADL>5)			109	76.1	139.9
	severely frail (FI>0.455) + no dizziness + independent or dependent but no severely (ADL<=5)			83	61.4	112.9
FI	mild or no CI (CPS<3)	439	19.6	178	30.9	157.7
	moderate or severe CI (CPS>=3) + no fatigue + bowel continence or some problem with bowel continence			113	21.2	108.4
EN	fatigue + no turning program	498	9.0	54	31.5	348.4
	fatigue + unsteady gait + no depression symptoms (DRS<= 1.0)			53	22.6	250.6
DE	dizziness + no disorganized speech	450	30.0	97	48.5	161.5
	no dizziness + no turning program + difficulty standing			52	42.3	141.0
CS	difficulty standing + some problem with bowel continence	490	24.1	50	50.0	207.6
	bowel continence or some problem with bowel continence + no difficulty standing + unsteady gait			77	33.8	140.2
	difficulty standing + bowel continence			59	30.5	126.7
	bowel continence or some problem with bowel continence + no difficulty standing + no unsteady gait + less than daily pain or daily pain but not severe or daily severe pain			50	30.0	124.6

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Contact: natalia.drapala@uj.edu.pl