Abstract

Background: An important part of palliative care is discussing preferences at end of life, however such conversations may not often occur. Care staff with greater self-efficacy towards end-of-life communication are probably more likely to have such discussions, however, there is a lack of research on self-efficacy towards end-of-life discussions among long-term care staff in Europe and related factors .

Objectives: Firstly, to describe and compare the self-efficacy level of long-term care staff regarding end-of-life communication across six countries; secondly, to analyse characteristics of staff and facilities which are associated to self-efficacy towards end-of-life communication.

Design: Cross-sectional survey.

Settings: Long-term care facilities in Belgium, England, Finland, Italy, the Netherlands and Poland (n=290).

Participants: Nurses and care assistants (n=1680) completed a self-efficacy scale and were included in the analyses.

Methods: Care staff rated their self-efficacy (confidence in their own ability) on a scale of 0 (cannot do at all) to 7 -(certain can do) of the 8-item communication subscale of the Self-efficacy in End-of-Life Care survey. Staff characteristics included age, gender, professional role, education level, training in palliative care and years working in direct care. Facility characteristics included facility type and availability of palliative care guidelines, palliative care team and palliative care advice. Analyses were conducted using Generalized Estimating Equations, to account for clustering of data at facility level.

Results: The proportion of staff with a mean self-efficacy score >5 was highest in the Netherlands (76.4%), ranged between 55.9% and 60.0% in Belgium, Poland, England and Finland and was lowest in Italy (29.6%). Higher levels of self-efficacy (>5) were associated with: staff over 50 years of age (OR 1.86 95% CI[1.30-2.65]); nurses (compared to care assistants) (1.75 [1.20-2.54]); completion of higher secondary or tertiary education (respectively 2.22 [1.53-3.21] and 3.11 [2.05-4.71]; formal palliative care training (1.71 [1.32-2.21]); working in direct care for over 10 years (1.53 [1.14-2.05]); working in a facility with care provided by onsite nurses and care assistants and offsite physicians (1.86 [1.30-2.65]); and working in a facility where guidelines for palliative care were available (1.39 [1.03-1.88]).

Conclusion: Self-efficacy towards end-of-life communication was most often low in Italy and most often high in the Netherlands. In all countries, low self-efficacy was found relatively

often for discussion of prognosis. Palliative care education and guidelines for palliative care could improve the self-efficacy of care staff.
Keywords: Health Communication; Licensed Practical Nurses; Nurses; Nurses' Aides; Nursing Homes; Nursing Staff; Palliative Care; Residential Facilities; Self Efficacy.

What is already known about the topic:

- Although discussing end-of-life topics is associated with positive outcomes for patients, research indicates that end-of-life issues are often not discussed with residents of long-term care facilities.
- When care staff has greater self-efficacy towards discussing end-of-life topics with residents, they may be more likely to have such discussions.
- Self-efficacy towards end-of-life communication among long-term care staff in Europe and associated factors have not been explored.

What this paper adds:

- Self-efficacy towards end-of-life communication varied between countries: it was relatively high among care staff in the Netherlands and low among staff in Italy.
- In all countries low self-efficacy levels were found most often for the discussion of disease course or prognosis.
- Staff had higher levels of self-efficacy when they: were older, were nurses (opposed to care assistants), had been working longer in direct care, had completed a higher level of education, worked in facilities with onsite nurses and offsite physicians or where palliative care guidelines were available.

Introduction

An increasing number of older people in Europe are expected to be admitted to long-term care facilities, due to the ageing population ((2015, OECD, 2016). They will present with extensive care needs at the end of life (Davies and I.J., 2004, Hall et al., 2011, Van den Block, 2015), for which palliative care is recognized as a suitable approach (Hall et al., 2011, Van den Block, 2015). An important aspect of providing palliative care is good communication between the patient, their relatives and care providers, which includes discussion of issues related to death and dying (Barazzetti et al., 2010). Discussing end-of-life issues is associated with higher quality of life (Leung et al., 2012), with receiving less aggressive treatments (Wright et al., 2008) and increasing patients' satisfaction with provided care (You et al., 2014).

The literature shows that physicians do not always discuss the end of life. For instance, in Belgium, physicians were less likely to discuss end-of-life topics with patients who died in residential homes, compared to patients who died in hospital (Evans et al., 2014). Similarly, nursing home physicians in France did not discuss any end-of-life topics with residents or their families in about one-third of residents (Morin et al., 2016). In a qualitative study in Norwegian nursing homes, only few residents and relatives reported to have participated in conversations about the end of life with nursing home staff (Gjerberg et al., 2015), which indicates that care staff in long-term care facilities probably do not discuss end-of-life topics with residents that often.

The occurrence of end-of-life discussions in European long-term care facilities could be influenced by care staff's level of self-efficacy for having such discussions. Self-efficacy refers to the belief in one's personal capabilities to perform a specific task. Theoretical work testifies that, the greater the individuals' perceived self-efficacy is, the more likely they are to successfully perform that behaviour (Bandura, 1997). Individuals with a stronger sense of self-efficacy will set higher goals for themselves and are more motivated to make an effort to achieve these goals, persevere when faced with difficulties and are more resilient to failed attempts. Those who have stronger perceived self-efficacy, experience less stress and depression in difficult situations, which in turn positively affects their functioning (Bandura, 1994). One's sense of self-efficacy can be influenced by four sources 1) mastery experiences, where successful behaviour strengthens self-efficacy 2) vicarious experiences, when self-efficacy raises by seeing people similar to oneself succeed 3) social persuasion, when others

create optimal situations to succeed and convince one of possessing certain capabilities 4) physical and emotional states interpreted as signs of one's capabilities (Bandura, 1997).

A low perceived self-efficacy among healthcare providers has been identified as a factor contributing to a lack of discussing difficult issues with patients (Mirand et al., 2002, Yoast et al., 2008) while an improved sense of self-efficacy is accompanied by improved communication practices (Banerjee et al., 2017, Gulbrandsen et al., 2013, Liu et al., 2007).

Regarding end-of-life discussions, a small-scale study among long-term care staff in Canada showed relatively high levels of perceived self-efficacy (Brazil et al., 2012).However, self-efficacy towards end-of-life discussions has not been researched among long-term care staff in Europe. Using data from the PACE study which included long-term care facilities in six EU countries, the aims of the present this study are:

1) to describe and compare long-term care staff's perceived self-efficacy level regarding end-of-life communication across countries

2) to analyze which facility and staff characteristics are associated with long-term care staff's perceived level of self-efficacy regarding end-of-life communication in long-term care facilities.

METHODS

Study setting and design

This study used data from the "Palliative Care for Older People" (PACE) project (Van den Block et al., 2016), obtained between January and December 2015. The PACE project includes a cross-sectional study of care staff in long-term care facilities in Belgium, England, Finland, Italy, the Netherlands and Poland. Long-term care facilities included collective institutional settings where onsite care is provided to older people 24/7 (Froggatt, 2017) and three types of facilities were identified: type 1 with 24/7 onsite care from physicians, nurses and care assistants; type 2 with 24/7 onsite care from nurses and care assistants and care from offsite-based physicians; and type 3 with 24/7 onsite care from care assistants and care from offsite-based nurses and physicians.

Representative samples of facilities were obtained through proportional stratified random sampling, based on region, facility type and bed capacity. As a public list of facilities was unavailable in Italy, a previously constructed convenience sample was used, covering the three macro regional areas and taking into account bed capacity and facility types in Italy (Onder et al., 2012).

In each participating facility, a questionnaire containing items on self-efficacy towards end-of-life communication was distributed to all nurses and care assistants who were on duty at the time of the research visit. Another questionnaire on facility characteristics was completed by the administrator or manager in each facility.

Ethics

In each country, ethical approval was obtained from the relevant ethics committees. Participants provided informed consent in writing, except in the Netherlands and Poland where an informed consent form was not required when questionnaires are filled in anonymously.

Measurements

Self-efficacy towards end-of-life communication was measured with the communication subscale from the Self-Efficacy in Palliative Care scale (SEPC), consisting of 8 statements (see table 2) (Mason and Ellershaw, 2004). For each of the eight statements, care staff rated their confidence in their own ability (perceived self-efficacy) on a scale of 0 (I cannot do at all) to 7 (certain I can do), with higher scores indicating higher levels of self-efficacy. An optional response to indicate 'not my responsibility' for any of these items was available. A forward-backward translation according to the EORTC guidelines was conducted in each country, except England (Dewolf et al., 2009). In the development of the SEPC scale content validity was assessed to be adequate. The communication subscale showed uni-dimensionality (factor loadings 0.70 – 0.89) and high internal consistency (Cronbach's alpha 0.93) in a sample of English medical students (Mason and Ellershaw, 2004).

The staff characteristics included in the analysis were age, gender, professional role, education level, formal training in palliative care and number of years of employment in direct care. Characteristics of facilities where staff were employed included: type of facility, availability of guidelines regarding palliative care, availability of a palliative care team and availability of palliative care advice.

Sample

In the PACE project a total of 3392 care staff members in 322 facilities received a questionnaire, of whom 2275 staff members returned a questionnaire. This study included 1680 care staff (in 290 facilities) who indicated their level of self-efficacy on all SEPC communication items. Staff who did not indicate their self-efficacy level (leaving the item

open or only indicating ‘not my responsibility’) on one or more items were excluded from the analyses. Compared to participants who filled in all SEPC items, participants with missing items more often: were care assistants, had lower educational levels, had no palliative care training, worked less years in direct care and worked in a facility without palliative care guidelines or with onsite physicians (see table 1).

Table 1. Comparison of characteristics between complete cases and cases with missing values on the Self-Efficacy in Palliative Care communication subscale.

	Cases without missing values	**Cases with missing values**	**p-value**
	% within group	% within group	
Age			.302
17-35 years (ref)	32.2	30.3	
36-50 years	40.1	38.6	
>50 years	27.7	31.0	
Gender (Female)	90.7	92.5	.151
Professional role			**<.001**
Care assistant (ref)	37.6	71.8	
Nurse	62.4	28.2	
Education level			**<.001**
Primary or lower secondary (ref)	16.1	23.4	
Higher secondary	49.4	55.6	*
Tertiary	34.5	21.0	*
Formal training in palliative care (Yes, as part of degree or additional education after degree)	55.4	47.5	**.001**
Number of years working in direct resident care More than 10 years (ref. 10 years or less)	57.4	47.1	**<.001**
Working in which type of facility			**<.001**
Onsite physicians, nurses and care assistants (ref)	14.0	22.9	
Onsite nurses and care assistants, offsite physicians	83.8	75.3	*
Onsite care assistants, offsite nurses and physicians	2.2	1.8	
Working in facility with specific guidelines regarding palliative care	64.9	48.5	**<.001**
Working in facility where palliative care team is available	19.7	20.9	.657
Working in facility where specialist palliative care advice is available	62.0	68.0	.496

*significantly different from reference category

Data preparation

Data was assembled using paper questionnaires, which participants sent back to the research institutes in each country. Subsequently, in each country data was entered in Limesurvey (Limesurvey GmbH.) and stored on a secured server. All data entry was conducted according to a protocol that was established beforehand by the study coordinator. Next, databases from all countries were merged and cleaned systematically. All decisions regarding data cleaning were documented.

Analyses

Frequencies were used to describe the participant and facility characteristics and staff's level of self-efficacy. A self-efficacy scale score was calculated as the mean self-efficacy level of the SEPC communication subscale. As the level of self-efficacy was not normally distributed, including after log-transformation, it was dichotomised in lower (≤5) and higher (>5) scores, based on the median score of all countries.

To take into account the nested data structure (care staff within facilities), Generalized Estimating Equations (GEE) were used to assess whether participant and facility characteristics and level of self-efficacy differed between countries and to assess which factors were associated with care staff's level of self-efficacy. Model specifications included an exchangeable correlation matrix.

With respect to factors associated with the level of self-efficacy, first the relation between the mean level of self-efficacy and each staff and facility characteristic and country was analysed. Next all staff and facility factors and country were included in the GEE models and with manual stepwise backward selection factors were removed until p-values in the model were <0.05, to identify the factors most strongly associated with the mean level of self-efficacy. Odds ratios (OR) and 95% confidence intervals (CI) were calculated. Participant and facility characteristics were checked for collinearity.

In all analyses an alpha level <0.05 was considered statistically significant. All analyses were performed with SPSS version 22 (IBM Corp. Released 2013. IBM SPSS Statistics for Windows, Version 22.0. Armonk, NY: IBM Corp).

RESULTS

Most staff members were female and the majority were above 35 years of age, with the exception of Italy (see table 2). In England and the Netherlands, a minority of staff members were nurses, opposed to the other countries. Less than 10% of staff had a primary or lower secondary education, except in the Netherlands and Poland. In Italy most staff had a tertiary level of education. Over half of staff had formal palliative care training, except in England. Contrary to the other countries, less than half of staff in England and Italy had more than 10 years of experience in direct care. In Belgium and Finland all care staff worked in facilities with onsite nurses and offsite physicians and in England part of the staff worked in facilities with offsite nurses and physicians. Most staff worked in facilities where guidelines for palliative care were available, except in Italy and Poland. Less than half of the care staff worked in a facility where a palliative care team was employed and with Finland excepted most staff worked in a facility where palliative care advice was available.

Table 2. Characteristics of the participating care staff and differences between countries (n=1680)

	NL (n=309)	BE (n=422)	FI (n=515)	IT (n=115)	NL (n=309)	PL (n=199)	EN (n=120)	p-value
Age[a]								<.001
17-35 years (ref)	94 (31.0)	167 (39.8)	133 (26.4)	59 (54.6)	94 (31.0)	27 (13.70)	51 (44.0)	
36-50 years	132 (43.6)	**153 (36.4)**	196 (38.9)	**41 (38.0)**	132 (43.6)	**107 (54.3)**	**32 (27.6)**	
>50 years	77 (25.4)	**100 (23.8)**	175 (34.7)	**8 (7.4)**	77 (25.4)	**63 (32.0)**	**33 (28.4)**	
Gender (Female)	285 (93.1)	**373 (88.4)**	487 (95.9)	**71 (64.0)**	285 (93.1)	182 (91.9)	111 (94.1)	<.001
Professional role								<.001
Care assistant (ref.)	252 (82.6)	182 (43.1)	20 (3.9)	0 (0.0)[b]	252 (82.6)	88 (44.2)	84 (71.8)	
Nurse	53 (17.4)	**240 (56.9)**	**491 (96.1)**	110 (100.0)	53 (17.4)	**111 (55.8)**	**33 (28.2)**	
Education level[a]								<.001
Primary or lower secondary (ref)	130 (42.5)	36 (9.1)	49 (9.7)	5 (4.5)	130 (42.5)	6 (3.0)	36 (32.4)	
Higher secondary	159 (52.0)	**171 (43.4)**	**302 (59.7)**	7 (6.3)	159 (52.0)	**133 (66.8)**	31 (27.9)	
Tertiary	17 (5.6)	**187 (47.5)**	**155 (30.6)**	**99 (89.2)**	17 (5.6)	**60 (30.2)**	**44 (39.6)**	
Formal training in palliative care (Yes, as part of degree or additional education after degree)	188 (61.6)	228 (57.1)	278 (54.8)	**59 (52.7)**	188 (61.6)	126 (65.3)	**25 (21.4)**	<.001
Number of years working in direct resident care More than 10 years (ref. 10 years or less)	197 (65.9)	241 (60.0)	**279 (56.0)**	**27 (25.7)**	197 (65.9)	**129 (68.6)**	**48 (42.)**	<.001
Working in which type of facility[a]								<.001
Onsite physicians, nurses and care assistants (ref.)	123 (39.8)			53 (46.1)	123 (39.8)	59 (29.6)		
Onsite nurses and care assistants, offsite physicians	186 (60.2)	**422 (100.0)**	**515 (100.0)**	62 (53.9)	186 (60.2)	**140 (70.4)**	83 (69.2)	
Onsite care assistants, offsite nurses and physicians							37 (30.8)	
Working in facility with specific guidelines regarding palliative care	161 (59.2)	**330 (89.7)**	358 (72.3)	**46 (40.0)**	161 (59.2)	**25 (13.1)**	83 (79.0)	<.001
Working in facility where palliative care team is available	57 (20.0)	172 (46.9)	**40 (8.2)**	28 (24.3)	57 (20.0)	**7 (3.5)**	**4 (3.6)**	<.001

Working in facility where specialist palliative care advice is available	162 (58.3)	**365 (96.1)**	**176 (35.3)**	59 (52.7)	162 (58.3)	118 (61.1)	**98 (85.2)**	<.001

BE=Belgium, FI=Finland, IT=Italy, NL=the Netherlands, PL=Poland, EN=England

Univariate GEE models, NL = reference category (based on self-efficacy scores, see table 2)

In bold = significant difference compared to the Netherlands

No. of missing values: Age: 32; Gender: 17; Professional role:16; Education level: 53; Formal PC training: 47; Years working: 75; PC guidelines: 134; PC team available in facility: 113; Specialist PC advice available: 103.

a: Nominal regression analysis, as GEE analysis did not fit the data,

b: Due to separation in data, Italy was not included in analysis on variable 'professional role'

In the Netherlands, the majority of staff rated a high level of self-efficacy (>5) on each item (range 59.2%-72.5%), in all other countries these proportions were significantly smaller (31.7%-67.6%) and in Italy it was the smallest(10.4%-30.4%) (see table 3). Over three-quarters of the staff in the Netherlands, and over half of the staff in Finland, England, Poland and Belgium had a self-efficacy scale score > 5, opposed to less than one-third in Italy.

In most countries, a high self-efficacy level was indicated 1st, 2nd or 3rd least often (ranking 8-6) on the statements 'Discussing the likely course of a life-limiting illness with the resident', 'Discussing the likely course of a life-limiting illness with the resident's family' and 'Responding to the resident's question: "How long have I got to live?". Staff also less often scored a high level of self-efficacy on the item 'Providing emotional support to the family upon bereavement' in Finland and on the item 'Responding to the resident's question: "Will there be much suffering or pain?"' in Poland and Italy.

Staff indicated high levels of self-efficacy most often (ranking 1) on the following items: 'Providing emotional support to the family upon bereavement' in Belgium; 'Discussing general issues related to dying and death' in Finland, Italy, Poland and England; and 'Having a discussion with the family about their specific concerns about the resident's dying and death' in the Netherlands and Italy.

Table 3. Percentage of care staff with high self-efficacy scores (>5) on discussing end-of-life topics, based on the Self-Efficacy in Palliative Care (SEPC) communication subscale (n=1680)

	NL (n=309)	BE (n=422)	FI (n=515)	IT (n=115)	PL (n=199)	EN (n=120)	p-value
	n (%) [rank per country]						
a. Discussing the likely course of a life-limiting illness with the resident	183 (59.2) [8]	139 (32.9)* [8]	195 (37.9)* [8]	17 (14.8)* [7]	63 (31.7)* [8]	46 (38.3)* [8]	<.001
b. Discussing the likely course of a life-limiting illness with the resident's family	195 (63.1) [6]	171 (40.5)* [6]	206 (40.0)* [6]	29 (25.2)* [4]	92 (46.2)* [5]	48 (40.0)* [7]	<.001
c. Discussing general issues related to dying and death	204 (66.0) [4]	187 (44.3)* [5]	348 (67.6) [1]	35 (30.4)* [1/2]	123 (61.8)* [1]	69 (57.5) [1]	<.001
d. Having a discussion with the resident about his/her specific concerns about dying and death	217 (70.2) [3]	208 (49.3)* [2]	296 (57.5)* [2]	25 (21.7)* [5]	104 (52.3)* [4]	63 (52.5)* [3]	<.001
e. Having a discussion with the family about their specific concerns about the resident's dying and death	224 (72.5) [1]	203 (48.1)* [3]	259 (50.3)* [3]	35 (30.4)* [1/2]	113 (56.8)* [3]	61 (50.8)* [5/4]	<.001
f. Providing emotional support to the family upon bereavement	223 (72.2) [2]	244 (57.8)* [1]	201 (39.0)* [7]	34 (29.6)* [3]	117 (58.8)* [2]	67 (55.8)* [2]	<.001
g. Responding to the resident's question: "How long have I got to live?"	190 (61.5) [7]	158 (37.4)* [7]	221 (42.9)* [5]	12 (10.4)* [8]	79 (39.7)* [7]	53 (44.2)* [6]	<.001
h. Responding to the resident's question: "Will there be much suffering or pain?"	197 (63.8) [5]	201 (47.6)* [4]	258 (50.1)* [4]	20 (17.4)* [6]	80 (40.2)* [6]	61 (50.8)* [5/4]	<.001
Scale score self-efficacy	236 (76.4)	236 (55.9)*	309 (60.00)*	34 (29.6)*	116 (58.3)*	71 (59.2)*	<.001

BE=Belgium, FI=Finland, IT=Italy, NL=the Netherlands, PL=Poland, EN=England

*Significant difference compared to the Netherlands

[]= ranking 1 (item on which staff most often indicated a SE>5) to 8 (item on which staff least often indicated a SE>5) in each country

Univariable analysis showed that self-efficacy towards end-of-life communication was associated with age, professional role, level of education, formal training in palliative care, years working in direct care and country (see table 4). The final multivariable model showed that care staff were more likely to have a high self-efficacy scale score if they: were over 50 years of age (OR 1.86 95%CI[1.30-2.65]); were nurses (1.75 [1.20-2.54]); had completed higher secondary or tertiary education (respectively 2.22 [1.53-3.21] and 3.11 [2.05-4.71]; had formal training in palliative care (1.71 [1.32-2.21]); had worked more than 10 years in direct care (1.53 [1.14-2.05]); worked in a facility with care from onsite nurses and care assistants and offsite physicians (1.86 [1.30-2.65]); and worked in a facility where guidelines for palliative care were available (1.39 [1.03-1.88]). Staff were less likely to have a high level of self-efficacy if they were working in countries other than the Netherlands.

Table 4. Characteristics associated with the level of self-efficacy towards end-of-life communication.

	Scale score self-efficacy ≤5	Scale score self-efficacy >5	Univariable n=1680 ≤5 = 678 (40.4%) >5 = 1002 (59.6%)		Multivariable n=1411 ≤5 n= 556 (39.4%) >5 n= 855 (60.6%)	
	N (%)	N (%)	OR (95% CI)	p-value	OR (95% CI)	P-value
Country						
The Netherlands (ref)	73 (23.6)	236 (76.4)	1		1	
Belgium	186 (44.1)	236 (55.9)	.383 (.273-.535)	<.001	.154 (.092-.258)	<.001
Finland	206 (40.0)	309 (60.0)	.450 (.323-.628)	<.001	.145 (.085-.249)	<.001
Italy	81 (70.4)	34 (29.6)	.127 (.068-.240)	<.001	.064 (.030-.134)	<.001
Poland	83 (41.7)	116 (58.3)	.449 (.283-.711)	.001	.209 (.119-.368)	<.001
England	49 (40.8)	71 (59.2)	.449 (.283-.711)	.001	.410 (.189-.894)	.025
Age				<.001		
17-35 years (ref)	271 (51.0)	260 (49.0)	1		1	
36-50 years	261 (39.5)	400 (60.5)	1.567 (1.200-2.047)	.001	1.062 (0.762-1.479)	.723
>50 years	131 (28.7)	325 (71.3)	2.527 (1.932-3.304)	<.001	1.856 (1.302-2.646)	.001
Gender	73 (47.4)	81 (52.6)	1		1	
Male						
Female	594 (39.4)	915 (60.6)	1.275 (0.918-1.772)	.147		
Professional role	275 (43.9)	351 (56.1)	1		1	
Care assistant (ref)						
Nurse	394 (38.0)	644 (62.0)	1.585	<.001	1.746 (1.202-2.537)	.003
Education level						
Primary + lower secondary (ref)	122 (46.6)	140 (53.4)	1		1	
Higher secondary	327 (40.7)	476 (59.3)	1.513 (1.151-1.989)	.003	2.216 (1.531-3.208)	<.001
Tertiairy	201 (35.8)	361 (64.2)	2.199 (1.598-3.024)	<.001	3.106 (2.048-4.711)	<.001
Formal training in palliative care						
No (ref)	340 (46.6)	389 (53.4)	1		1	
Yes, as part of degree or additional education after degree	314 (34.7)	590 (65.3)	1.679 (1.351-2.086)	<.001	1.707 (1.317-2.214)	<.001
Number of years working in direct resident care						
10 years or less (ref)	348 (50.9)	336 (49.1)	1		1	
More than 10 years	291 (31.6)	630 (68.4)	2.203 (1.758-2.762)	<.001	1.530 (1.142-2.049)	.004
Working in which type of facility						
Onsite physicians, nurses	100 (42.6)	135 (57.4)	1		1	

and care assistants (ref)						
Onsite nurses and care assistants, offsite physicians	560 (39.8)	848 (60.2)	1.134 (.744-1.727)	.559	1.735 (1.045-2.882)	.033
Onsite care assistants, offsite nurses and physicians	18 (48.6)	19 (51.4)	0.771 (.376-1.582)	.479	1.842 (.597-5.683)	.288
Working in facility with specific guidelines regarding palliative care						
no (ref)	238 (43.8)	305 (56.2)	1		1	
yes	387 (38.6)	616 (61.4)	1.242 (0.942-1.638)	.124	1.393 (1.034-1.876)	.030
Working in facility where palliative care team is available						-
no (ref)	496 (39.4)	763 (60.6)	1		1	
yes	133 (43.2)	175 (56.8)	0.915 (0.687-1.218)	.524		
Working in facility where palliative care advice is available	245 (40.9)	354 (59.1)	1		1	-
no (ref)						
yes	388 (39.7)	590 (60.3)	1.079 (0.832-1.400)	.567		

OR= Odds Ratio, CI= Confidence Interval.

Logistic GEE analyses. Dependent variable: mean self-efficacy level towards end of life communication (0 –self-efficacy scale score ≤ 5, 1 – self-efficacy scale score > 5)

Collinearity between independent variables was not present.

Missings: gender:17, professional role:16, formal palliative care training:47, years in direct care:75, guidelines palliative care:134, specialist palliative care team: 113, specialist palliative care advice:103, age:32, education level:53

Discussion

In this study care staff's level of perceived self-efficacy towards end-of-life communication differed largely between countries, with mostly high levels of self-efficacy in the Netherlands and low levels of self-efficacy in Italy. Furthermore, care staff more often had a high mean level of perceived self-efficacy if they: were older, were nurses (compared to care assistants), followed higher secondary or tertiary education or formal palliative care training, worked in direct care for over 10 years, worked in a facility with onsite nurses and offsite physicians or where palliative care guidelines were available, or worked in the Netherlands.

Self-efficacy theory

Factors related to care staff's self-efficacy towards end-of-life communication

The facility and staff characteristics which we found to be associated with care staff's sense of self-efficacy, can be linked to the four sources of influence in Bandura's self-efficacy theory: mastery experiences; vicarious experiences; social persuasion; and physical and emotional states. First, the relation between self-efficacy and age, work experience, professional role, educational level and country seems to be connected to mastery experiences. Older staff may generally have more personal experience with death and dying and discussing difficult topics and more years of work experience provide more opportunities to practice end-of-life communication. Previous research found that care assistants are less likely to engage in a conversation with a nursing home resident's family about death and dying, compared to nurses (Johnson and Bott, 2016). Care assistants also have expressed difficulty in responding to existential matters, for which they often used non-verbal communication strategies such as gentle touches, instead of discussing the topic (Ahsberg and Carlsson, 2014). Additionally, care staff's professional roles show a tendency for focus on ADL assistance in lower educational levels and care assistants roles (Mistiaen et al., 2011, Wöpking, 2016), while higher educational levels and nurses' professional roles could have more focus on the importance of end-of-life discussions. Moreover, in the Netherlands care staff could be expected to work more independently, compared to other countries (de Veer et al., 2004). This in turn could mean that in the Netherlands care staff carry out more tasks themselves, such as discussing end-of-life topics, instead of this being allocated to other care providers such as the physician.

Variation in vicarious experiences could also play a role in country differences. Previous studies found, for instance, that discussions of end-of-life topics by general practitioners occur most often in the Netherlands and least often in Italy (Evans et al., 2014), which could indicate how common it is for healthcare providers discuss end-of-life matters with patients. Furthermore, in Mediterranean countries such as Italy healthcare providers often practice partial- or non-disclosure of end-of-life issues, due to wishes of family who are often involved in care (Gysels et al., 2012) and to the importance of maintaining patient's hope and not causing them distress (Toscani and Farsides, 2006).

Availability of palliative care guidelines and facilities where physicians are available offsite while nurses provide care onsite, could be optimal environments for end-of-life discussions and raising staff's self-efficacy (social persuasion in Bandura's theory). Oncology nurses in the United States have reported difficulty in not being able to make autonomous decisions about having certain conversations, without consent from the medical team (Banerjee et al., 2016). Staff working in facilities with onsite physicians may experience a similar struggle, while staff in facilities where the physician is offsite may be more used to working independently and having these discussions themselves. Availability of guidelines can facilitate healthcare providers' participation in palliative care improvement projects (van Riet Paap et al., 2014) and might contribute to a care culture in which staff are expected to provide palliative care, including end-of-life discussions, and where they are supported by the facility.

Considering the 4th factor of influence in self-efficacy theory, negative emotional states could have contributed to lower levels of perceived self-efficacy of younger, less experienced staff, care assistants and staff without palliative care education. Other research showed that younger and less experienced nurses indicated a stronger fear of death (Peters et al., 2013) (Lange et al., 2008), which is linked to feeling less comfortable in discussing death with patients and families (Deffner and Bell, 2005). Moreover, nursing assistants have reported that talking about death with residents or families felt unnatural and emotionally demanding and they felt a lack of competency to do so (Beck et al., 2012). Finally, nurses considered palliative care training to be an important strategy to reduce anxiousness about caring for terminally ill patients (Sommerbakk et al., 2016) and nurses who received palliative care education reported less death anxiety (Zyga et al., 2011).

Discussing prognosis: most often low self-efficacy

In all countries fewer staff indicated high levels of perceived self-efficacy on items

concerning discussion of disease course or prognosis, which could be due to lack of mastery and vicarious experiences and to negative emotions. Care staff could lack experience in informing residents about their prognosis, as this may be a task for physicians instead for care staff. However, prognosis or disease course could be a topic of discussion for care staff once residents have been informed. Most residents in long-term care have multiple chronic diseases which can make it difficult to establish an accurate prognosis (Murray et al., 2005) and care staff could evaluate their efforts to discuss prognosis as unsuccessful when they cannot provide a definite prognosis. Limited discussions of prognoses by other healthcare providers may also play a role, as studies have shown that physicians in French nursing homes did not discuss prognosis with 36.5% of residents or their families (Morin et al., 2016). Also, in only 13.6% of long-term care residents in five European countries the physician established an accurate prognosis and informed the resident about this (Ten Koppel et al., 2018). Furthermore, healthcare providers have indicated discussing prognosis feels uncomfortable because they are afraid it will have a negative impact on their patients, such as taking away their hope (Hancock et al., 2007). However, most older people would like to be informed about their prognosis because it helps them to make the most of life and prepare for death (Ahalt et al., 2012), indicating that discussing prognosis can be considered an important skill for care staff.

Country differences

As mentioned above, differences in the sources of influence – such as the level of independency in work roles and how common end-of-life discussions are- may partly explain the observed differences between countries, However, in light of the international character of the current study a more in-depth reflection of country differences –mainly the high scores in the Netherlands- deserves attention. It is possible that among Dutch staff end-of-life matters-life matters are more normalised, which makes them feel that they should be able to discuss matters openly and therefore should have high self-efficacy. This would result in staff indicating higher levels of self-efficacy than they actually experience. It is also possible that the Dunning-Kruger effect, where low-ability people lack the self-awareness to objectively evaluate their competence (Kruger and Dunning, 1999), is more pronounced in the Netherlands than in other countries. This means that Dutch staff could more often underestimate the difficulties or overestimate their own abilities in end-of-life discussions, which has been found to play a role in pain treatment and assessment (Zwakhalen et al., 2007). Cultural differences between countries could play a role in this. Markus and Kitayama

proposed that cultural dimensions such as individualism and collectivism can shape self-phenomena, such as self-efficacy (Markus and Kitayama, 1991). Earley et al. (1999) concluded that for individualists self-efficacy is mainly shaped by feedback of individual performance, while self-efficacy of collectivists is influenced both by individual and group performance feedback (Earley et al., 1999). Furthermore, a review conducted by Klassen (2004) suggests that on average, self-efficacy levels are lower among collectivists compared to individualists. However, congruence between self-efficacy beliefs and subsequent behaviour seems more accurate among collectivists than among individualists (Klassen, 2004). This means that individualists would usually overestimate their skills, as could be the case for Dutch nurses in the current study. Data from cross-country research conducted by Hofstede et al. shows the following country rankings on individualism (0-100): Great Britain 89, the Netherlands 80, Italy 76, Belgium 75, Finland 63 and Poland 60 (Hofstede et al., 2010, Hofstede et al., 2015). While those data do not point towards the Dutch being extremely more individualistic than the other countries, we have not assessed individualism in this study and it is possible that in our sample individualism was more pronounced among staff in the Netherlands.

Implications for practice, policy and research

Communication training strategies for healthcare providers can improve self-efficacy towards communicating with patients and increase communication performance (Banerjee et al., 2017, Brown et al., 2009, Gulbrandsen et al., 2013, Hsu et al., 2014, Liu et al., 2007). Furthermore, our results indicate that palliative care education could also be beneficial in increasing care staff's self-efficacy and could be further supported by establishing national policies to ensure availability of palliative care guidelines in facilities.

In all countries staff could benefit from training and education on discussing prognoses and disease course. Such training could highlight the importance of informing patients when a prognosis is uncertain (Ahalt et al., 2012), allowing care staff to feel less prohibited by the fact that they cannot provide an exact prognosis. It is also important to highlight that patients can maintain hope after they acknowledged their condition is terminal (Clayton et al., 2008), to reduce negative feelings associated with discussing prognosis. Additionally, communication training and education can be tailored to each country. For example, in Finland training could focus on including relatives in palliative care and improving emotional intelligence skills, as self-efficacy was often low for providing family emotional support. In Italy and Poland training could also focus on pain (management) at the

end of life.

While care staff with higher levels of self-efficacy are generally more likely to engage in end-of-life discussions, we cannot infer with certainty that in practice they do, since this was not researched. Furthermore, it is unknown whether a higher self-efficacy leads to end-of-life discussions of better quality. Therefore, future research could focus on the relationship between self-efficacy and performance quality in end-of-life discussions across countries, potentially by conducting a mixed-methods study.

Strengths and limitations

This is the first study comparing long-term care staff's perceived self-efficacy towards end-of-life communication across six European countries and analysing factors associated with this specific self-efficacy. This study included a large sample of 1680 care staff members.

While recruitment in the PACE study was random, there is some selection bias in the current study sample, as participants who filled in all self-efficacy items differed from those with missing items. Based on findings in this study, participants with missing values are likely to have lower levels of self-efficacy, based on their characteristics (see table 1). Therefore the proportion of care staff with high self-efficacy could be an overestimation and the associations found between staff and facility characteristics could be stronger.

Conclusion

In the Netherlands most staff have a high level of perceived self-efficacy, while in Italy most staff have a low level of perceived self-efficacy towards end-of-life communication. In all countries high self-efficacy scores are found least often for discussing prognosis. High self-efficacy shows associations with older age, more years of working in care, profession as a nurse, completion of a higher level of education, working in facilities with onsite nurses and offsite physicians, availability of palliative care guidelines and employment in the Netherlands. Communication training, palliative care education and guidelines for palliative care could be adjusted to country-specific needs in order to help improve care staff's self-efficacy.

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