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Strengths and resources used by Australian and Danish adult patients and their family caregivers during treatment for cancer

E. Coyne, RN MN Hons PhD Senior Lecturer [a,*], K.B. Dieperink, RN, MCN, PhD, Postdoc [b],
B. Østergaard, RN, MSc, PhD Associate Professor [c],
D.K. Creedy, RN PhD. Professor of Perinatal Mental Health [d]

[a] *Senior Lecturer, School of Nursing & Midwifery, Menzies Health Institute, Griffith University, 4131, Queensland, Australia*
[b] *Department of Oncology, Academy of Geriatric Cancer Research (AgeCare), Danish Knowledge Centre of Rehabilitation and Palliative Care (REHPA), Odense University Hospital, Southern Boulevard 29, DK-5000 Odense C, Denmark*
[c] *Department of Clinical Research, Faculty of Health Sciences, University of Southern Denmark, Denmark*
[d] *Menzies Health Institute Queensland, Griffith University, Australia*

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ABSTRACT

Purpose: Family plays an essential role in supporting the patient with cancer, however, relatively little attention has been given to understanding the strengths and resources of the family unit across different settings and countries. This study aims to investigate the strengths and resources of patients and family members in Australia and Denmark.
Methods: Using a descriptive, cross-sectional design, 232 patient and family participants from inpatient and outpatient oncology services in Australia and Denmark completed paper based surveys that included the Family Hardiness Index (FHI) and Family Crisis Orientated Personal Evaluation Scales (F-COPES), together with demographic and health information.
Results: The family's appraisal of the cancer and ways the family worked together predicted the level of external resources used to manage their circumstances.
Conclusion: After a cancer diagnosis patients and family respond in different ways related to their family functioning. There is a need for nurses to work closely with the family to understand their strengths and resources, and tailor support and information for family to promote optimal patient outcomes.

1. Introduction

Cancer is one of the leading causes of morbidity and mortality, with approximately 14 million new cases of cancer worldwide every year (WHO, 2015). The treatment for cancer is complex and often involves intermittent hospitalisation. Symptom treatment and management create considerable distress for adult patients and families (Milbury et al., 2013; Williams et al., 2013). Family based interventions are reported to be effective in providing support to patients but less attention has been given to the concurrent needs of family caregivers (Deek et al., 2016). Understanding family strengths and resources can assist health professionals to assess family caregiver needs and implement tailored support (Griffin et al., 2014; Tang et al., 2013).

Recent research has investigated the role and experiences of the family as a unit highlighting a high level of unmet needs and distress experienced by family members (Coyne et al., 2012; Senden et al., 2015). Family have been identified as the 'silent carers' of patients, and are often invisible in the treatment plan of the patient (Blum and Sherman, 2010; Coyne et al., 2012; Williams et al., 2013). Furthermore, the family often bear the hidden costs of cancer care related to unpaid time, loss of productivity, as well as out-of-pocket expenses of, which can be up to $27,000 for breast cancer treatment (Cancer, 2017; Kang et al., 2016). Increasingly family caregivers are responsible for providing supportive care to patients at home, which requires an understanding of treatment schedules and pain management. The stability and functioning of the family unit not only influence quality of care in the home but also the patient's emotional and physical outcomes (Northouse

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[*] Corresponding author. School of Nursing & Midwifery, Griffith University, Logan Campus, University Drive, Meadowbrook, Qld 4131, Australia.
E-mail addresses: e.coyne@griffith.edu.au (E. Coyne), Karin.dieperink@rsyd.dk (K.B. Dieperink).

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et al., 2012). However, family caregivers often have little preparation or possess the necessary skills for caregiver tasks related to cancer (Northouse, 2012; Yates et al., 2004). Reviews of the literature around family caregiving have highlighted the stress experienced by family caregivers, but also the lack of understanding about the family role by health professionals and strategies to best support families (Deek et al., 2016; Northouse et al., 2012).

The family is a group of individuals who bring a combination of strengths and resources into the care of their family member with cancer (E. Coyne, 2013a). A Family Systems approach focuses on the strengths and resources of the family in relation to phase of life and connectedness to each other (Wright and Leahey, 2013). It is the flexible combination of strengths and resources that allows some families to mobilise and manage adversity while other families are ineffectual in similar circumstances (McCubbin et al., 1998; Wright and Leahey, 2013). As families adjust to health adversity they draw upon internal strengths, both individually and as a family unit to assist the patient. These strengths include commitment to the family, communication skills, personal appraisal of the health adversity, and characteristics such as sense of control (Walsh, 2006). Strengths are defined as protective attributes that enable the family to better adjust to health adversity (McCubbin et al., 1998). Family resources refer to the capacity to access assistance outside the family to manage the situation with minimal disruption to their functioning (McCubbin et al., 1998). One Australian mixed method study on resilience when a family member suffered chronic pain found that family coherence and social support assisted the family to maintain functioning (West et al., 2012). Communication within the family also influenced their ability to work together and maintain a positive approach to managing pain (West et al., 2012).

The role of nurses in supporting families is also receiving attention. A descriptive exploratory survey study with 242 family caregivers and 356 nurses in Germany compared what families valued compared to what nurses thought families valued in the provision of care (Pinkert et al., 2013). Family caregivers most valued information followed by the need for partnership with nurses to help work through problems (Pinkert et al., 2013). Conversely, nurses overestimated the family's need for emotional support, and had limited awareness of the desire of families to be involved in the care of the patient (Pinkert et al., 2013).

International collaborative research can provide opportunities to build research capacity and develop strong links for future interventional research (Priest et al., 2007). Australia and Denmark are developed countries with high quality publically-funded health care. However, we do not fully understand the impact of possible differences between countries related to the impact of geographic distance between home and hospital, paid carer leave; and how the supportive role of nurses in different health systems may influence the coping of family members. In order to better understand family experiences and needs, family researchers have recommended collaborative international research to build knowledge around families' adjustment during cancer (Bell, 2014; Ganong, 2011; International Family Nursing Association (IFNA), 2015). Ostergaard and Wagner (2014) described the evolution of family research in Denmark and highlighted the importance of shifting the focus to the patient and family as a unit of care. In Australia, research is beginning to include family caregivers (Coyne et al., 2012; Kean and Mitchell, 2014; Mitchell et al., 2009); however a focused understanding of the strengths and resources of family is still lacking.

2. Conceptual framework

Family Systems Nursing, which emphasizes the family as a unit of care, informed our conceptual framework (McCubbin et al., 1998; Wright and Leahey, 2013). Investigating the family as a group of individuals who influence each other allows for exploration of family and patient strengths, particularly communication, connection, and functioning (Walsh, 2006; Wright and Leahey, 2013). For the purpose of the current research, family is defined as a group of individuals who are bound by strong emotional ties, a sense of belonging, a commitment to being involved in one another's lives, and who call themselves ‘family’ (Wright and Leahey, 2013).

The current study aimed to investigate the strengths and resources of adult patients and family caregivers during treatment for cancer in Australia and Denmark. An earlier qualitative study by Coyne and Dieperink (2016) revealed similar health delivery systems, nursing care roles, and standards of living across Australia and Denmark providing a baseline for the current study.

3. Method

A descriptive, cross-sectional design was used to investigate the strengths and resources of adult patients and family caregivers during treatment for cancer in Australia and Denmark. The Family Systems Nursing Theory informed the recruitment strategy, survey content and approach to analysis to determine how the patient and family work together as a unit during treatment for cancer.

3.1. Sample and setting

A convenience sample of adult patients was recruited from two metropolitan oncology units in Denmark and Australia. Recruited patients then identified family members who could be approached. Inclusion criteria were adults receiving active cancer treatment as inpatients or attending the oncology outpatient clinic and their nominated family members. Exclusion criteria were inadequate ability to speak the country's native language or complex medical needs as decided by supervising registered nurse.

Approximately 2000 new patients attended the two oncology units during the three month recruitment period. However, recruitment was influenced by clinical staff decisions, reducing the potential pool to approximately 1000. A sample of 214 patients was required to achieve a small/medium effect size with a 90% Confidence Interval and <0.05 probability.

4. Measures

Demographic data included age, gender, educational level, occupation and ethnic origin. Respondents indicated if they were in a committed spousal relationship or not; and if they had dependent children or not, and if so, if the children were less than ten years or over. Demographic subgroups were country, patient, gender, age, family, cancer groups. These subgroups allowed for comparison across the standardized measures.

4.1. Family strengths

Family Hardiness Index (FHI) is a validated scale, designed to measure overall strengths and durability of the family unit by combining patient and family responses (E. Coyne, 2013a; Jeong et al., 2016). The FHI has 20-items reflecting three interrelated subscales: Commitment, Challenge and Control. ‘Commitment’ relates to an individual's loyalty to the family and sense of how the family works together. ‘Challenge’ relates to how the individual views adversity and their efforts to be active and innovative in response. ‘Control’ relates to the individual's sense of control over the situation. Participants rate their response using a 4 point Likert scale (0 false - 3 true) to indicate the degree to which each statement describes the family's strengths. Scores are summed to produce subscale scores and an overall family strength score. Higher FHI scores reflect more family strengths and ability to manage the health adversity. Reported internal consistency reliability of the instrument is 0.82 (McCubbin et al., 1986). For the current study the Cronbach's alpha coefficient was 0.77.

4.2. Family resources

Family Crisis Orientated Personal Evaluation Scales (F-COPES) is a 29-item validated scale, which measures the external resources family caregivers use to assist them through a stressful situation (McCubbin et al., 1981). This scale can be completed by both the patient and family member and has been used previously to report the resources used by patients and family members as a family group (E. Coyne, 2013a; McCubbin et al., 1998). There are five subscales: Social support, Reframing, Spiritual support, Mobilising community support, and Passive appraisal. The subscale ‘Social support’ measures perceptions of support from extended family and friends; ‘Reframing’ relates to the capacity to redefine the stressful event into a more manageable response; ‘Spiritual support’ focuses on the role of religion for comfort and support; ‘Mobilising’ involves actively seeking health professional and community support; and ‘Passive appraisal’ relates to an acceptance of problems. F-COPES items are rated on a 5 point Likert scale (1 = strongly disagree to 5 = strongly agree). Scores are summed to produce subscale scores and an overall score. Higher total F-COPES scores represent better coping strategies and the ability to connect with resources. Reported internal consistency reliability of the instrument is 0.87 (McCubbin et al., 1981). For the current study a Cronbach's alpha coefficient of 0.87 was obtained.

4.3. Procedure

Registered nurses at participating sites identified eligible patients for inclusion in the study. Recruitment information was available to patients and family members. Patients and family members who agreed to participate were provided with a separate questionnaire, which they completed either whilst in hospital or at home and returned the form in a pre-paid envelope. Participants were able to withdraw at any time without penalty and if they became tired or were in pain were able to complete the survey at their own pace.

Ethical approval was obtained from participating Australian and Denmark hospitals and universities [NRS/32/14/HREC] and Danish Data Protection Agency [J.nr. 2014-41-3136]. The study was carried out in accordance to the principles of Helsinki declaration (World Medical Association, 2008). All participants were given a plain language information form and consent was implied by return of the questionnaire. All surveys were de-identified.

4.4. Analysis

Data analyses were conducted using SPSS for Windows version 22. Data were checked for accuracy of entry across the two countries with less than 5% error. Data at missing points were given the mean of that item (Polit, 2010), this accounted for less than 3% of all items. Surveys with whole sections of missing data were excluded within that section (FHI 2%; FCOPES 3%). Data were checked for normal distribution and summarised using descriptive analysis, including means, standard deviations and frequency distributions. Traditionally family researchers have used either patient or family members to provide information; however, we undertook the analysis on the full data set which allowed for a layered approach to understanding patient and family responses. Patient and family member data were grouped using a case study and aggregate data process within SPSS. Comparisons of demographic characteristics, and scale and subscale scores were compared using independent t-tests. Wilcoxon's test was used when the data did not meet the assumption for normal distribution. A one way analysis of variance was used to investigate differences between patient and family groups according to country. Stepwise linear regression was used to explore predictions between independent variables and dependent variable ‘Family resources’. The assumptions for a regression model (e.g. linearity, homogeneity of variance of residuals, and normality of residuals) were met. Comparative means analysis was conducted with the 78 family groups to identify factors influencing family strengths and resources. A p value of < 0.05 was considered statistically significant.

5. Results

The total number of participants was 232 (Australia n = 122; Denmark n = 110). Recruitment was completed over three months. A response rate in Australia of 46% and 90% in Denmark was achieved. The Danish sample had a higher response rate as the majority of participants completed the survey whilst in hospital, whereas in Australia, 50% of family caregivers completed the questionnaire at home and returned it via reply paid post. Refusal to participate related to fatigue and survey questions being perceived as too sensitive as voiced by some potential participants. No further contact or reminders could be made as the questionnaire was anonymous.

Australian patients consisted of 44 males and 39 females. Danish patients consisted of 24 males and 32 females. Age of patients varied between countries with Australian participants being older (M 63 years, SD 11.7) than Danish participants (M 59 years, SD 10.8) but the difference was not statistically significant. Cancer diagnoses were similar across countries with the main cancers being breast (22%), colon (17%), and lung (12.5%). Family caregiver sample size differed slightly with 39 participants from Australia (males 11, females 28) and 54 from Denmark (males 29, females 25). Mean age of family caregivers was 56 years in both countries (See Table 1 for sample characteristics).

The analysis was completed in several stages to identify demographic factors which influenced the family strengths and resources. Table 2 presents the comparison of family strengths and resources across Australia and Denmark.

A secondary analysis compared all aspects of the demographics and scales between the countries however only statistically significant results are presented.

5.1. Family strengths

Family strengths as measured by the FHI had a mean score of 45 out of possible 60. The subscale ‘Challenge’ had the highest item mode (2.3 out of 3). There was a significant difference between countries in the subscales of ‘Challenge’ and ‘Control’ with a moderate size effect (Cohen's D eta squared = 0.4) (See Table 2).

The comparison between demographic subgroups and FHI scores using independent t-tests identified differences between age groups, with the youngest and oldest family caregivers having the lowest mean scores; and between patient and family, with family having lower mean scores. In the subscale FHI ‘Commitment’ and ‘Challenge’ families with children scored significantly higher than families with no children (See Table 3).

5.2. Family resources

Family resources as measured by F-COPES had a mean score of

Table 1
Presentation of demographics of participants from Australia and Denmark (N = 232).

Characteristic	Australia (N = 122)	Denmark (N = 110)
Patient n (%)	**n = 83**	**n = 56**
Sex, male	44 (53)	24 (43)
Sex, female	39 (47)	32 (57)
Mean age (SD)	63 (11.7)	59 (10.8)
Patient Age groups n (%)		
18–40	4 (5)	1 (2)
41–50	5 (6)	13 (23)
51–60	26 (31)	15 (27)
61–70	28 (34)	14 (25)
71–99	20 (24)	13 (23)
Family caregiver n (%)	**n = 39**	**n = 54**
Sex, male	11 (28)	29 (54)
Sex, female	28 (72)	25 (46)
Mean age (SD)	56 (15)	56 (14)
Caregiver Age groups n (%)		
18–40	7 (18)	3 (6)
41–50	3 (8)	16 (30)
51–60	12 (31)	13 (24)
61–70	13 (33)	14 (25)
71–99	4 (10)	8 (15)
Cancer diagnosis n (%)		
Breast	15 (18)	13 (23)
Lung	8 (10)	14 (14)
Bowel	17 (20)	11 (20)
Haematological	24 (29)	
Other	19 (23)	24 (43)
Patient's marital status n(%)		
Married	50 (60)	49 (88)
Single	33 (40)	7 (12)
Patient's with or without children n(%)		
Children under 10 years	4 (5)	3 (5)
Children over 10 years	36 (43)	37 (66)
No children	43 (52)	16 (29)

Table 3
Comparison of family strengths (FHI) and family resources (F-COPES) across demographic subgroups (N = 232).

	Mean	SD	t(225)	p
Commitment				
Families with children	20.1	2.6	3.01	0.00
Families with no children	18.7	3.8		
Challenge				
Families with children	13.9	2.8	4.08	0.00
Families with no children	12.2	3.3		
F-COPES Social support				
Patient	33	7.4	2.75	0.01
Family caregiver	30.2	7.4		
Reframing				
Patient	35	4	3.07	0.01
Family caregiver	33.3	4.3		
Spiritual support				
Patient	13.8	3.3	3.12	0.00
Family caregiver	12.4	3.5		
Spiritual support				
Families with children	14.2	3.7	3.25	0.01
Families with no children	12.7	3.3		
Mobilising				
Patient	14.5	3.8	2.32	0.02
Family caregiver	13.3	3.6		
Passive appraisal				
Participants <60	14.4	2.7	2.26	0.02
Participants >60	13.5	3.6		
Passive appraisal				
Families with children	14.4	3.2	3.04	0.01
Families with no children	13.1	3		

107 out of a possible 145. Most participants ‘moderately agreed’ that they worked together as a family (3.7 out of 5). The subscales relating to ‘Social support’ and ‘Reframing the problem’ scored slightly higher (mode 4 out of 5), with ‘Spiritual support’ scoring lowest (mode 2 out of 5). A significant difference was noted between patient and family caregivers across F-COPES with patients scoring higher than family across all subscales. The age of family members also influenced the way family used resources with participants under sixty years being more active in seeking resources. The type of cancer was not significant; however, families in the category of ‘lung cancer’ consistently had the lowest scores (See Table 3).

There was a strong positive correlation between total FHI and F-COPES scores (r = 0.45, p < 0.001). A negative correlation between F-COPES subscales of ‘Passive appraisal’ and ‘Social support’ (r = -21, p < 0.01) highlighted that participants with a lower sense of positive appraisal of the cancer were less likely to seek help (See Table 4 for correlations of FHI and FCOPES).

A stepwise linear regression identified predictive variables of family resources as measured by F-COPES. Level of family resources was predicted by FHI subscales of ‘Challenge’ and ‘Commitment’.

Table 2
Comparison of family strengths (FHI) and family resources (F-COPES) during oncology treatment between Australian and Danish participants (n = 232).

Patient and family members	Australia n = 121	SD	Denmark n = 104	SD	*P* value[c]
	Mean		Mean		
FHI Commitment	19.9	3.6	19.1	2.7	0.6
Challenge	12.7	3.4	13.9	2.6	0.00*
Control	12.6	3.2	11.6	3.1	0.03*
FHI[a] Total	45.2	8.2	44.7	6.2	0.6
F-COPES					
Social support	30.9	8.5	33	5.8	0.02*
Reframing	34.4	4.9	34.3	3.8	0.87
Spiritual support	13.9	3.6	12.5	3.2	0.00*
Mobilising	13.5	4.3	14.6	3.2	0.04*
Passive appraisal	14.3	3.1	13.5	3.3	0.06
F-COPES[b] Total	107	15.8	107.9	12.2	0.64

Abbreviations: SD, Standard Deviation.

[a] FHI min score 16 point – max score 59 point.

[b] F-COPES min score 61 point – max score 143 point.

[c] ttest reported *P*-values are two-sided and p < .05 is considered as significant.

The model explained 39% of the variance in family resources. The regression modelling of demographic variables identified that occupation (professional group rating highest) and age group scores (participants below 40 years scoring lowest) predicted the family resources and explained 31% of the variance in the use of family resources (See Table 5 for the regression analyses).

The analysis of the 78 family groups identified that age, cancer or occupation had some influence on family strengths or resources as reported by FHI and F-COPES.

6. Discussion

This international study provides a contemporary view of the strengths and resources of patients undergoing treatment for cancer and their family caregivers in Australia and Denmark. The sample of participants across the two countries was similar enabling comparative analyses. The mean scores of the FHI and F-COPES were similar to those reported in previous studies (E. Coyne, 2013a; Jeong et al., 2016; Persson et al., 2016; Woodson et al., 2015) and demonstrated a reasonable level of perceived strengths and resources of participating families. The results identified minimal differences between participants in both countries except in the family strengths subscales of ‘Challenge’ and ‘Control’. This result may highlight differences in the ways patients and families view health adversity in the two countries. In Australia, patients may be assisted by cancer support nurses who aim to provide tailored interventions for the patient and family (Coyne et al., 2017). A similar service is not readily available in Denmark (Coyne and Dieperink, 2016).

The exploration of family strengths provides insights into how families function, share information, perceive the cancer, and exert control over their circumstances. Although the type of cancer diagnosis may diminish sense of control, most participating families reported working together to overcome adversity. This aligns with the Family Systems Nursing theory which accentuates that the family aim to work together as a unit to maintain family functioning (Wright and Leahey, 2013).

The current study found few differences between the patient and family caregivers across the subscales of family strengths, which gives weight to treating the patient and their family as a family unit in research and practice. The trends across our data identified that family caregivers often reported lower strengths, highlighting the importance of including family caregivers in discussions and education sessions with the patient to build capacity and organise appropriate support (Northouse, 2012). Differences between age groups accentuated that younger and older family caregivers reported lower strengths. Similar findings were reported in a previous study with families of patients under the age of 50 with breast cancer (E. Coyne, 2013a). This may be related to more demands on these families related to time of life. Younger families are more likely to be negotiating employment, child rearing, and education demands, whereas older families may have concurrent health issues impacting on coping with the health adversity (Eaton et al., 2011; Griffin et al., 2014).

Previous research has found that having a partner was protective when facing health adversity (Dieperink et al., 2012; Kauffmann et al., 2016). The current research found that families with no children reported lower family strengths. It could be that families with no children live relatively independently, do not actively seek help in other aspects of life, and therefore have difficulty seeking help when confronted with a cancer diagnosis. Northouse (2012) proposed that some families need to be taught how to seek help so that it becomes a normal aspect of coping. Strategies to enhance social networks of families could be offered by nurses. Nurses could also work with families to identify areas where external help may be useful in order to maintain family functioning (Bell, 2013).

The influence of cancer type was not significant, however, a trend was noted with participants in the ‘lung cancer’ category reporting lower strengths, which is consistent with previous research (Mosher et al., 2015). Negative attitudes related to lung cancer including stigma and disease progression, have been linked to patients' negative perception of their personal strengths and ability to recover (Milbury et al., 2013; Weiss et al., 2014). Nurses' awareness of attitudes towards patients and families across all cancer types is important in order to improve their perception of coping with cancer (Mosher et al., 2015; Udo et al., 2014).

Family resources which included social support, reframing, spiritual support, mobilising community support, and passive appraisal were measured. The majority of participants reported working together as a family and using external resources to assist them during the health adversity, which is similar to previous research exploring family resources (Wenzel et al., 2012). The consistent links between strengths and use of resources by families highlights the possibilities of using group-based interventions so that coping families can share their strategies with those feeling overwhelmed and provide peer-advice on how to seek external help (I. Coyne, 2013b).

This is one of the first studies to investigate predictors of resource use by family. Exploring the relationship between demographics and predictors of family resources identified that the patient's perceptions of the cancer influenced their use of resources more than the connection with family. A meta-analysis by Shand et al. (2015) on post-traumatic stress symptoms and post-traumatic growth concluded that optimism and positive coping strategies were closely linked to personal growth. Social support was also positively related to post-traumatic growth (Shand et al., 2015). These findings support the connection between positive appraisal and use of resources such as social and health professional support for family caregivers.

Commitment of the family to work together also predicted their use of resources external to the family. These findings highlight the importance of working with the family to develop their connection as a family and to see the cancer as a challenge that can be managed

Table 4
Pearson correlations across the domains strengths (FHI) and resources (FCOPES) between all patients and family members (N = 232).

	FHI	FCOPES	Commitment	Challenge	Control	Social support	Reframing	Spiritual S	Mobilising	Passive appraisal
FHI		0.454**	0.790**	0.790**	0.729**	0.290**	0.418**	0.183**	0.264**	0.262**
FCOPES			0.375**	0.438**	0.226**	0.868**	0.623**	0.580**	0.789**	
Commitment				0.448**	0.345**	0.263**	0.432**	0.191**		
Challenge					0.305**	0.367**	0.299**		0.332**	
Control							0.223**			0.364**
Social support							0.371**	0.357**	0.703**	**-0.207****
Reframing								0.303**	0.318**	

**Correlation significant at 0.01 (2-tailed).

Table 5
Predictors of resources (FCOPES) in stepwise multiple regression analyses of all patients and family members during oncology treatment (N = 232).

Dependent variables	Predictors	β	B	95%CI	p value	r^2	Adjusted R^2	F
FCOPES	FHI Challenge	0.34	1.55	(0.95, 2.14)	0.001	0.232	0.039	33.19***
	FHI Commitment	0.22	0.97	(0.41, 1.54)	0.001			
FCOPES	Occupation	-0.18	−2.0	(-3.6, −0.49)	0.010	0.04	0.031	4.64
	Age groups	0.14	0.16	(0.11, 0.305)	0.035			

Abbreviations: β, standardized regression coefficients as Beta; R2, R-squared; B, unstandardized regression coefficients; df, Degree of Freedom; F, F-test.
$^{***}p < 0.001$.

rather than feeling overwhelmed by the adversity (Bell and Wright, 2015). Northouse (2012) discussed the notion of working with the family as a unit to assist them to share the burden of caregiving, acknowledge feelings, and better address their needs. Overall these predictions support the need for supportive interventions by nurses which are tailored to assisting the family to work together and positively appraise the adversity of cancer.

Family caregivers in the current study reported less use of support from sources such as health professionals. This finding is similar to previous research which also noted that families need to be guided on how health professionals can assist them with information, decision-making and general support (Pinkert et al., 2013). There is a need for nurses to actively understand how the patient and family view the cancer and initiate discussion about resources to improve their long term outcomes (Dieperink et al., 2017; Voltelen et al., 2016). Research exploring nurses' attitudes to family assessment noted that nurses often fail to fully understand the degree of patient and family distress in relation to the cancer (Coyne et al., 2017; Kean and Mitchell, 2014; Legg, 2011). The use of Family Systems Nursing to analyse data from patients and family caregivers as a unit enabled a more detailed view of family functioning. This research identified the need for clinicians to work with patients and families as a unit of care. This recommendation applies particularly to the family who does not ask for help, and may in fact be overwhelmed with the diagnosis and in need of tailored support to meet their needs.

7. Limitations

Results of this study need to be considered in light of limitations. The relatively small participant numbers across the two countries limits the ability to generalise our findings. Therefore, larger comparative studies need to be conducted. The two countries had different data collection styles (on-site and take-home) which are likely to have influenced the completion of surveys. The data was only collected once, was not at the same point of the cancer trajectory for all participants, and may have influenced the results. It's possible that those families who were under stress were less likely to participate and future studies should aim to foster higher participation rates of all families and collect data at a similar time since diagnosis.

We collected quantitative data which provides numerical values of participants' strengths and resources, whereas the inclusion of qualitative data as well would have allowed for a deeper understanding of participants' experiences during treatment. Future research should therefore consider mixed method designs.

8. Conclusions

This paper provided an understanding of the strengths and resources used by patients and families during treatment for cancer across two countries to inform future implementation of patient and family-centred care. The study identified that families who define the cancer diagnosis as a manageable challenge were more likely to ask for help and seek supportive resources. Patients and their family members aim to work together to maintain family functioning although at times using external resources would improve the families' ability to support the patient. Understanding the strengths and resources used by families will enable nurses to build a connection with the family and tailor supportive interventions. Patients and family caregivers in Denmark and Australia have similar attributes thus providing some direction for future collaborative intervention studies.

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