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Published in:
Journal of Pain and Symptom Management

DOI:
[10.1016/j.jpainsymman.2021.10.004](https://doi.org/10.1016/j.jpainsymman.2021.10.004)

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version
Publisher's PDF, also known as Version of record

Publication date:
2022

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Damen, A., Raijmakers, N. J. H., van Roij, J., Visser, A., Beuken-
Everdingen, M. V. D., Kuip, E., van Laarhoven, H. W. M., van Leeuwen-
Snoeks, L., van der Padt-Pruijsten, A., Smilde, T. J., Leget, C., &
Fitchett, G. (2022). Spiritual well-being and associated factors in Dutch patients with advanced cancer. *Journal of Pain and Symptom Management*, 63(3), 404-414.
<https://doi.org/10.1016/j.jpainsymman.2021.10.004>

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Original Article

Spiritual Well-Being and Associated Factors in Dutch Patients With Advanced Cancer



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Abstract

Context. Palliative care aims to support patients' spiritual needs with the intention of promoting their spiritual well-being (SWB), an important dimension of quality of life. SWB is one of the less-studied dimensions of QoL, particularly in a secular country such as the Netherlands.

Objectives. In this study we aimed to get a better understanding of SWB in Dutch patients with advanced cancer. We therefore examined its prominence and associated factors.

Methods. We used the baseline data of a cohort study on experienced quality of care and quality of life (eQuiPe study), which included 1,103 patients with advanced cancer. In addition to sociodemographic and religious/spiritual characteristics, study measures comprised the SWB subscales Meaning, Peace, and Faith of the revised FACIT-Sp-12, spiritual problems and needs (PNPCsv), quality of life (EORTC-QLQ-C30) and satisfaction with healthcare professionals' interpersonal skills (INPATSAT-32).

Results. On average, patients experienced quite a bit of Meaning (8.9, SD 2.3), a little bit to somewhat Peace (6.8, SD 2.7), and very low levels of Faith (2.9, SD 3.7). Two-thirds (71%) of patients reported one or more spiritual problems, for which the majority (54%) wanted to receive attention. In the final multivariable models, only a few factors were associated with SWB, such as greater spiritual needs with lower levels of Meaning and Peace.

Conclusion. Dutch patients with advanced cancer experience medium to low levels of Meaning, Peace, and Faith. More attention for their SWB is warranted. *J Pain Symptom Manage* 2022;63:404–414. © 2021 American Academy of Hospice and Palliative Medicine. Published by Elsevier Inc. All rights reserved.

Key Words

Spiritual well-being, quality of life, religion, spirituality, cancer, palliative care

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Accepted for publication: 8 October 2021.

Introduction

Patients with advanced cancer often experience lower levels of quality of life (QoL) due to the burden of physical symptoms and psycho-social and spiritual concerns.^{1–3} Palliative care aims to support patients' physical, psychological, social, and spiritual needs with the intention of promoting their QoL.⁴ QoL is hereby defined as "an individual's perception of their position in life in the context of culture and value system in which they live and in relation to their goals, expectations, standards, and concerns"⁵.

Spiritual well-being (SWB) is one of the less studied dimensions of QoL. There is no consensus regarding the definition of SWB, but it is usually described as a multifaceted construct that points to a human need for transcendence encompassing, for example, a relationship to self, others, nature, art, and/or a higher being; a sense of meaning and purpose in life; and inner peace and harmony.^{1,6}

Previous studies have indicated that SWB levels are lower for terminal cancer patients in comparison to cancer survivors.^{7,8} Known factors associated with lower levels of SWB are being male, unmarried, and/or white; having a lower level of education; lacking religious affiliation; and dealing with symptom distress and/or physical impairment. Lower SWB is also associated with an expressed wish for hastened death, worse communication among patients and families, sadness, anxiety, and depression.^{9–14} Associations between SWB and other dimensions of QoL indicate consistent and independent positive associations between SWB and the physical, functional, social, mental, and emotional dimensions of QoL (for a more extensive review of the associations between SWB and QoL, see 1). However, due to construct overlap, some of these associations should be interpreted with care^{1,15,16} for example, between 'inner peace' and mental and emotional well-being.

No study has ever assessed SWB and its associations in patients with advanced cancer, specifically in a secular context such as the Netherlands. In this study, we understand secularization as "the falling off of religious beliefs and practices, in people turning away from God, and no longer going to Church".¹⁷ The spiritual beliefs, experiences, and needs might be considerably different in a context in which more than 50% of people identify as religiously unaffiliated (and only 14% regularly visit a church) compared to only 23% in the United States, where most studies have been conducted.^{18,19} For example, experiencing meaning, a purpose, and inner peace in a more secular context might be similar to such experiences in a more religious context, while an experience of faith in a secular context might be completely different than one in a more religious setting.

In this study, we therefore examined whether associations with SWB in the Dutch context were comparable

to associations found in previous studies among patients with advanced disease in more religious contexts. We included sociodemographic and clinical characteristics and QoL dimensions known to be associated to SWB.^{1,9–14} We furthermore added patients' spiritual problems and needs for care to gain more insight into the association between spiritual needs and SWB in a secular context. Finally, we examined the association of SWB with healthcare professionals' contributions to patients' interpersonal satisfaction with care, considering research that found higher levels of SWB for people who felt more socially connected.²⁰ In the midst of dealing with serious illness at the end of life, people can feel isolated. Being well-cared for by competent health professionals might play a small role in experiencing meaning and inner peace.

Through a better understanding of levels of SWB and its associated factors, we aim to inform healthcare professionals' aspirations to promote their patients' QoL. Our research questions were as follows:

1. What are the levels of SWB of patients with advanced cancer in the Netherlands?
2. What are the associations between patients' SWB and sociodemographic, medical/clinical, religious/spiritual factors, QoL, and satisfaction with interpersonal skills of healthcare professionals?

Methods

Study Design

A cross-sectional analysis using baseline data of a prospective, longitudinal, multicenter, observational study on quality of care and QoL of patients with advanced cancer and their relatives was conducted (eQuiPe study; for the full study design²¹). The study was exempted from medical ethical review according to the Dutch Medical Research Involving Human Subjects Act, declared by the Medical Research Ethics Committee of the Antoni van Leeuwenhoek hospital (METC17.1491).

Study Population

Patients with advanced cancer and their relatives were recruited between 2017–2020 from 40 hospitals in The Netherlands through the departments of medical oncology, pulmonology, and urology. Patients had to be age 18 years or older with a diagnosis of a solid metastasized tumor (stage IV), able to complete a Dutch self-report questionnaire, and able to understand the objective of the study. To reduce an overrepresentation of participants with a relatively good prognosis, patients with breast or prostate cancer were purposefully recruited.

Data Collection

Patients were screened for eligibility and self-enrolled or were asked by their physician to participate. In total, 1,695 eligible patients were contacted by phone by the research team to discuss participation, of which 15% of the patients did not want to participate due to lack of interest, bad health, too overwhelming, or lack of time. After giving informed consent, patients received questionnaires on paper or online via the Patient Reported Outcomes Following Initial treatment and Long-term Evaluation of Survivorship registry.²² Before completing the baseline questionnaire, 20% dropped out for various reasons, including declining health or death. A total of 1,103 (65%) patients responded to the baseline questionnaire of the eQuiPe study.

Measures

Sociodemographic and Clinical Characteristics

Information about the age and gender of the participants was obtained from the Netherlands Cancer Registry linked to the eQuiPe data. Information about the marital status, children, education, life expectancy (self-reported), cancer type, active/non active treatment, and religious affiliation was gathered from the questionnaire.

Spiritual Well-Being

Spiritual Well-Being was measured by a revised version of the *Dutch Functional Assessment of Chronic Illness Therapy - Spiritual Well-Being 12 Item Scale* (FACIT-Sp-12).^{23,24} The scale consists of the three four-item domains—Meaning, Peace, and Faith—and includes statements such as, ‘I feel a sense of purpose in my life,’ ‘I feel peaceful,’ and ‘I find strength in my faith or worldview’ (for the questions, see [supplementary Table 1](#)). The original measure comprises 12 questions rated on a 5-point Likert scale from not at all (0) to very much,⁴ with higher scores indicating higher SWB. In a previous study, the scale was validated for the Dutch context showing acceptable measurement properties except for three items (four, eight and 12; one item in each of the subscales).²⁴ In this study we therefore employed a revised scale with these items excluded. The Cronbach’s α coefficient for the revised subscales for the present study were 0.77 for Meaning, 0.83 for Peace, and 0.94 for Faith.

Previous research has pointed to the limited informative value of the total score of the FACIT-Sp-12, as the three subscales can have very different associations to other measures that become subsumed under the total score.^{25,26} For example, an association between physical functioning and total SWB may only be

associated to Meaning and Peace.²⁶ The present study therefore looked at the subscale scores instead of the total score. Scores for the subscales were created from the sum of the items and could range from 0 to 12.

Spiritual Problems and Needs

Spiritual problems and needs were assessed with the *Problems and Needs in Palliative Care short version* (PNPCsv) subscale spiritual issues.²⁷ The subscale is composed of four statements to which a patient responds whether there’s a problem (no/somewhat/yes, 0–2) and whether the patient would like attention for that problem (no/as much as now/yes, more, 0–2). The statements are: difficulties to be engaged usefully, uncertainty regarding my significance to others, struggle concerning the meaning of death, and difficulty of accepting the disease (translated by the first author, for the original translations, see 27). Total scores were calculated by adding the numerical scores for the four statements and could range from 0 to 8, with higher scores indicating higher problems and needs. The Cronbach’s α values in the present study were 0.75 for the problem aspect and 0.86 for the need for care aspect.

Quality of Life

Quality of life was assessed with the *European Organisation for Research and Treatment of Cancer Quality of Life Core Questionnaire version 3* (EORTC-QLQ-C30), a measure consisting of 30 items about global health/QoL, functioning, and symptoms.^{28,29} In this study, we included the functioning scales and the two common and distressing symptom scales for many cancer patients (fatigue and pain). They are rated on a four-point Likert scale from not at all¹ to very much,⁴ with higher functioning scores representing a higher level of functioning, and higher symptom scores representing a higher symptom burden. Through linear transformation, scores were standardized from 0-100. Threshold scores for clinical importance were followed from Giesinger and colleagues.³⁰ In the present study, the Cronbach’s α values were 0.90 for global health/QoL, 0.83 for physical functioning, 0.88 for role functioning, 0.86 for emotional functioning, 0.66 for cognitive functioning, 0.81 for social functioning, 0.86 for fatigue, and 0.85 for pain.

Satisfaction With the Interpersonal Skills of Healthcare Professionals

Satisfaction with care was assessed with the interpersonal skills subscale from the adjusted *European Organisation for Research and Treatment of Cancer (EORTC) INPATient SATisfaction 32 (items) questionnaire* (INPATSAT-32).³¹ The original scale addresses physicians and nurses separately; we revised the scale to address healthcare professionals in general. The items read:

their willingness to listen to all of your concerns, the interest they showed in you personally, and the comfort and support they gave you. The items were scored on a five-point Likert scale from poor¹ to excellent.⁵ Scores were standardized through linear transformation from 0 to 100 with higher scores representing higher satisfaction. Cronbach's α for the interpersonal subscale was 0.92.

Analysis

Descriptive statistics were calculated for study variables including the mean, standard deviation, frequency, percentage, maximum and minimum and the amount of missing data. We used hierarchical multivariable linear regression analysis to examine the associations of sociodemographic characteristics (model 1), medical/clinical characteristics, (model 2), religious/spiritual characteristics (model 3), spiritual problems and needs (model 4), quality of life (model 5) and satisfaction with care variables (model 6) to the three subscales of SWB (Meaning, Peace, Faith). Because the instances of missing data exceeded 5% for some variables (see Table 1), missing data were imputed using Multiple Imputation.³² Data were analyzed using the statistical software STATA.³³

Results

Sociodemographic and Clinical Characteristics

Of the 1,103 patients with advanced cancer, 51% were men. The average age was 65 years (SD 9.9). The most common cancer types were lung (30%), colorectal (19%), breast (15%) and prostate (12%) cancer. Approximately two-third of the sample was not religiously active, indicating to be either Protestant or Catholic but not churchgoing (42%) or unaffiliated (34%); 18% did go to church (see Table 1).

Spiritual Wellbeing of Patients With Advanced Cancer

Patients scored 8.9 (SD 2.3) on Meaning, indicating that on average they experience quite a bit of meaning and purpose in their life (see Table 1). Patients scored lower on Peace and Faith, respectively 6.8 (SD 2.7) and 2.9 (SD 3.7). Most people who reported being Christian but not churchgoing or unaffiliated chose 'not at all' on the Faith items. Further analysis found that relatively few patients (14%) reported 'somewhat' or less (<2) on all Meaning items. In contrast, low levels of Peace and Faith were reported by 45% and 82% respectively (see supplementary Table 1).

Spiritual Problems and Needs

Somewhat less than one third of the patients reported no spiritual problems (29%), and 71% reported one or more spiritual problems. More than

Table 1
Socio-Demographic and Clinical Characteristics of Study Population (N = 1,103)

Variable	N (%) / mean (SD), [actual range]	Missing N (%)
Age	65.3 (9.9), [29–93]	4 (0%)
Gender		0 (0)
Male	564 (51)	
Female	542 (49)	
Marital status		2 (0)
Partnered	912 (83)	
No partner	192 (17)	
Children		74 (7)
Yes	861 (83)	
No	171 (17)	
Education ^a		14 (1)
Low	328 (30)	
Medium	450 (41)	
High	314 (29)	
Religious affiliation		12 (1)
Protestant or Catholic, not churchgoing	364 (42)	
Protestant or Catholic, churchgoing	196 (18)	
Other ^b	67 (6)	
No affiliation	367 (34)	
Primary tumor		17 (2)
Lung	323 (30)	
Colorectal	205 (19)	
Breast	168 (15)	
Prostate	128 (12)	
Other	265 (24)	
Treatment in the past three months		11 (1)
Yes	809 (73)	
No	286 (26)	
Life expectancy according to patient		110 (10)
Not communicated/I don't know	335 (34)	
>1 year		
<1 year	283 (28)	
I don't want to know	129 (13)	
Other ^c	141 (14)	
Other ^c	108 (11)	
Spiritual well-being (revised FACIT-Sp-12)		83 (8)
Meaning	8.9 (2.3), [0–12]	
Peace	6.8 (2.7), [0–12]	
Faith	2.9 (3.7), [0–12]	
Spiritual problems		65 (6)
0	302 (29)	
1	130 (12.5)	
2	186 (17.9)	
3	107 (10.3)	
4	111 (10.7)	
5	67 (6.4)	
6	75 (7.2)	
7	36 (3.5)	
8	27 (2.6)	
Spiritual needs		103 (9)
0	458 (45.7)	
1	96 (9.6)	
2	87 (8.7)	
3	65 (6.5)	
4	191 (19)	
5	36 (3.6)	

(Continued)

Table 1
Continued

Variable	N (%) / mean (SD), [actual range]	Missing N (%)
6	37 (3.7)	
7	13 (1.3)	
8	20 (2)	
Quality of Life		
Physical functioning	70.4 (22.5), [0–100]	25 (2)
Role functioning	64 (29.9), [0–100]	28 (3)
Emotional functioning	78.2 (20.8), [0–100]	25 (2)
Cognitive functioning	82.2 (20.9), [0–100]	27 (2)
Social functioning	78.3 (24.1), [0–100]	25 (2)
Fatigue	38.2 (25.4), [0–100]	
Pain	21.9 (25.9), [0–100]	
Satisfaction with interpersonal skills	70.4 (21.4), [0–100]	56 (5)

^aEducation levels are categorized according to International Standard Classification of Education guidelines: Low: no education, pre-primary, primary, lower secondary education, compulsory education, initial vocational education. Medium: upper secondary general education, basic vocational education, secondary vocational education, post-secondary education. High: specialized vocational education, university/college education, (post)-doctorate and equivalent degrees.

^bOther includes Humanist (N = 29), Muslim (N = 6) and Other (N = 32).

^cOther includes not life-threatening (patient N = 34; physician N = 26).

half of the patients (54%) wanted to receive attention for their spiritual problems, either as much as now or more (see Table 1). Further analysis showed that patients mostly struggled with difficulty of accepting the disease (7%). Some patients did experience spiritual problems but did not wish for any attention (4%–7%) (see Table 2).

Quality of Life and Satisfaction With Interpersonal Care

The QoL of patients in all dimensions was significantly lower compared to the normative population.³ The mean score on physical functioning of 70.4 (SD 22.5) was below the threshold of clinical importance of 83, indicating some impairment in functioning. Regarding healthcare professionals' interpersonal skills, patients were generally satisfied (70.4, SD 21.4) (see Table 1).

Factors Associated With Spiritual Well-being

Tables 3 to 5 report the results of the multivariable analyses of the subscales Meaning, Peace, and Faith. Only a few sociodemographic factors were associated with SWB, such as being female (B = 0.29, P < .001) and having children (B = 0.54, P < .01) with higher levels of Meaning, and not having a partner (B = -0.44, P < .05) with lower levels of Meaning. Regarding religious/spiritual factors, being Christian and churchgoing (B = 0.44, P < .05) was associated with higher levels of Meaning, and other affiliation (B = 0.84, P < .01) with higher levels of Peace. As expected, being Christian and churchgoing (B = 4.70, P < .001) and other affiliation (B = 2.70, P < .001) were associated with higher

Table 2
Spiritual Problems and Needs For Care (N = 1,103)^a, N (%)

Variable	Yes/yes, more ^b	Yes/as much as now	Yes/no	Somewhat/yes, more	Somewhat/as much as now	Somewhat/no	No/yes, more	No/as much as now	No/no
Difficulties to be engaged usefully	51 [5]	57 [5]	49 [4]	26 [2]	138 [12]	104 [9]	13 [1]	109 [10]	470 [42]
Uncertainty regarding my significance to others	51 [5]	65 [6]	54 [5]	19 [2]	142 [13]	113 [10]	13 [1]	116 [10]	439 [40]
Struggle concerning the meaning of death	41 [4]	44 [4]	43 [4]	18 [2]	138 [12]	100 [9]	12 [1]	86 [8]	518 [47]
Difficulties of accepting the disease	73 [7]	82 [7]	75 [7]	21 [2]	166 [15]	102 [9]	11 [1]	79 [7]	410 [37]

^aThe number of missing per item ranged from 35–59 (3%–5%) for the problems aspect, and 80–95 (7%–9%) for the needs aspect.

^bYes I have a problem/Yes I want more attention.

Table 3
Multivariable Models of Meaning (N = 1,103)

Variable (reference group)	Values	Model 1 B (SE)	Model 2 B (SE)	Model 3 B (SE)	Model 4 B (SE)	Model 5 B (SE)	Model 6 B (SE)
Age		0.00 (.01)	0.00 (0.01)	0.00 (0.01)	-0.00 (0.01)	-0.00 (0.01)	-0.00 (0.01)
Gender (male)	Female	0.29 (0.15) ^a	0.27 (0.15)	0.38 (0.16) ^a	0.45 (0.16) ^b	0.59 (0.15) ^c	0.59 (0.15) ^c
Marital status (partnered)	No Partner	-0.68 (0.20) ^b	-0.67 (0.20) ^b	-0.58 (0.20) ^b	-0.58 (0.19) ^b	-0.50 (0.19) ^a	-0.44 (0.19) ^a
Children (yes)	No	0.38 (0.21)	0.38 (0.21)	0.44 (0.20) ^a	0.46 (0.20) ^a	0.51 (0.20) ^a	0.54 (0.19) ^b
Education (low)	Medium	0.41 (0.18) ^a	0.45 (0.18) ^a	0.50 (0.18) ^b	0.32 (0.18)	0.26 (0.17)	0.30 (0.17)
	High	0.31 (0.20)	0.33 (0.20)	0.45 (0.21) ^a	0.18 (0.20)	0.04 (0.19)	0.11 (0.19)
Religious affiliation (Protestant or Catholic, not churchgoing)	Protestant or Catholic, churchgoing		0.42 (0.21) ^a	0.41 (0.21) ^a	0.45 (0.20) ^a	0.45 (0.19) ^a	0.44 (0.19) ^a
	Other		-0.19 (0.31)	-0.18 (0.32)	-0.18 (0.37)	0.02 (0.30)	0.12 (0.30)
	No affiliation		-0.16 (0.16)	-0.10 (0.16)	-0.16 (0.15)	-0.22 (0.15)	-0.18 (0.15)
Primary tumor (lung)	Colorectal			-0.16 (0.21)	-0.18 (0.20)	-0.16 (0.19)	-0.15 (0.20)
	Breast			-0.59 (0.24) ^a	-0.65 (0.23) ^b	-0.66 (0.22) ^b	-0.63 (0.22) ^b
	Prostate			-0.31 (0.25)	-0.17 (0.25)	-0.07 (0.24)	-0.05 (0.24)
	Other			0.03 (0.19)	0.02 (0.18)	0.04 (0.18)	0.00 (0.18)
Treatment in the past three months (yes)	No			0.33 (0.16) ^a	0.32 (0.16) ^a	0.27 (0.15)	0.22 (0.15)
Life expectancy according to patient (not communicated/I don't know)	>1 yr			0.25 (0.19)	0.19 (0.18)	0.20 (0.18)	0.15 (0.17)
	<1 yr			-0.99 (0.27) ^b	-0.88 (0.25) ^b	-0.60 (0.24) ^a	-0.66 (0.25) ^a
	I don't want to know			0.24 (0.23)	0.27 (0.22)	0.29 (0.22)	0.23 (0.21)
	Other			0.44 (0.25)	0.26 (0.25)	0.21 (0.25)	0.14 (0.25)
Spiritual problems					-0.21 (0.04) ^c	-0.14 (0.04) ^b	-0.14 (0.04) ^c
Spiritual needs					-0.09 (0.04) ^a	-0.03 (0.04)	-0.01 (0.04)
Physical functioning						0.02 (0.00) ^c	0.01 (0.00) ^c
Role functioning						-0.00 (0.00)	-0.00 (0.00)
Emotional functioning						0.01 (0.00) ^b	0.01 (0.00) ^a
Cognitive functioning						0.01 (0.00)	0.01 (0.00)
Social functioning						0.00 (0.00)	0.00 (0.00)
Fatigue						0.00 (0.00)	0.00 (0.00)
Pain						-0.00 (0.00)	-0.00 (0.00)
Satisfaction with interpersonal skills							0.02 (0.00) ^c
R ² adjusted		0.02	0.03	0.06	0.12	0.18	0.20

^aP < .05^bP < .01^cP < .001

levels of Faith, and being unaffiliated with lower levels of Faith ($B = -1.24$, $P < .001$). More spiritual problems were associated with lower Meaning ($B = -0.14$, $P < .001$) and Peace ($B = -0.22$, $P < .001$).

Of the clinical factors, only breast cancer ($B = -0.63$, $P < .01$) and a life expectancy of less than a year ($B = -0.66$, $P < .05$) were associated with lower levels of Meaning, and a life expectancy of less than a year with a lower level of Faith ($B = -0.91$, $P < .01$). Of the QoL factors, there were small associations between greater physical functioning and higher levels of Meaning ($B = 0.01$, $P < .001$) and greater emotional functioning and higher levels of Meaning ($B = 0.01$, $P < .05$), Peace ($B = 0.05$, $P < .001$), and Faith ($B = 0.01$, $P < .05$). Finally, greater satisfaction with the interpersonal skills of healthcare professionals had small associations to Meaning ($B = 0.02$, $P < .001$), Peace ($B = 0.01$, $P < .001$), and Faith ($B = 0.01$, $P < .05$).

The R² of the final model of the Meaning subscale did not explain much of the variance.²⁰ The R²

increased after adding the spiritual problems factor¹² and physical and emotional functioning.¹⁸ The final model of Peace explained almost half of the variance.⁴² Increases in R² were noticeable after adding spiritual problems and needs²⁴ and emotional functioning.⁴¹ The R² of the Faith subscale increased after adding the religious/spiritual factors³⁴ and stayed at a similar level after adding the other factors.³⁵

Discussion

In this study we investigated SWB of advanced cancer patients using the revised subscales Meaning, Peace, and Faith of the Dutch FACIT-Sp-12. On average, the 1,103 patients experienced quite a bit of Meaning (8.9, SD 2.3) and a little bit to somewhat of Peace (6.8, SD 2.7). On average, patients scored 'not at all' on the Faith subscale (2.9, SD 3.7), understandable because approximately two-thirds of the sample was not religiously active. In the final multivariable models,

Table 4
Multivariable Models of Peace (N = 1,103)

Variable (reference group)	Values	Model 1 B (SE)	Model 2 B (SE)	Model 3 B (SE)	Model 4 B (SE)	Model 5 B (SE)	Model 6 B (SE)
Age		0.03 (0.01) ^b	0.03 (0.01) ^b	0.03 (0.01) ^b	0.02 (0.01) ^b	0.01 (0.01)	0.01 (0.01)
Gender (male)	Female	-0.04 (0.17)	-0.06 (0.17)	-0.18 (0.19)	-0.03 (0.18)	0.17 (0.16)	0.17 (0.16)
Marital status (partnered)	No Partner	-0.25 (0.24)	-0.24 (0.24)	-0.19 (0.23)	-0.19 (0.21)	-0.19 (0.19)	-0.15 (0.19)
Children (yes)	No	-0.02 (0.24)	-0.02 (0.24)	0.08 (0.24)	0.11 (0.22)	0.14 (0.20)	0.16 (0.19)
Education (low)	Medium	0.30 (0.21)	0.33 (0.21)	0.41 (0.21)	0.04 (0.19)	-0.10 (0.17)	-0.07 (0.17)
	High	0.87 (0.23) ^c	0.86 (0.23) ^c	0.98 (0.24) ^c	0.31 (0.21)	0.27 (0.19)	0.32 (0.19)
Religious affiliation (Protestant or Catholic, not churchgoing)	Protestant or Catholic, churchgoing		0.59 (0.23) ^a	0.55 (0.23) ^a	0.63 (0.21) ^b	0.53 (0.19) ^b	0.52 (0.18)
	Other		0.18 (0.36)	0.19 (0.35)	0.19 (0.32)	0.77 (0.28) ^b	0.84 (0.28) ^b
	No affiliation		0.10 (0.20)	0.15 (0.21)	0.03 (0.19)	-0.11 (0.16)	-0.08 (0.15)
Primary tumor (lung)	Colorectal			0.19 (0.24)	0.15 (0.22)	0.29 (0.19)	0.30 (0.19)
	Breast			0.02 (0.28)	-0.09 (0.25)	-0.21 (0.22)	-0.19 (0.22)
	Prostate			-0.60 (0.30) ^a	-0.31 (0.27)	-0.19 (0.24)	-0.17 (0.24)
	Other			0.01 (0.22)	-0.01 (0.20)	-0.01 (0.18)	0.02 (0.18)
Treatment in the past three months (yes)	No			0.48 (0.19) ^a	0.45 (0.18) ^a	0.30 (0.15)	0.26 (0.15)
Life expectancy according to patient (not communicated/I don't know)	>1 yr			0.08 (0.22)	-0.04 (0.20)	-0.01 (0.19)	-0.05 (0.19)
	<1 yr			-0.85 (0.31) ^b	-0.63 (0.26) ^a	-0.26 (0.24)	-0.30 (0.24)
	I don't want to know			0.33 (0.26)	0.39 (0.24)	0.41 (0.21)	0.36 (0.21)
	Other			0.80 (0.29) ^b	0.44 (0.26) ^b	0.36 (0.24)	0.30 (0.24)
Spiritual problems					-0.42 (0.04) ^c	-0.21 (0.04) ^c	-0.22 (0.04) ^c
Spiritual needs					-0.19 (0.04) ^c	-0.07 (0.04)	-0.06 (0.04)
Physical functioning						0.01 (0.00)	0.01 (0.00)
Role functioning						0.00 (0.00)	0.00 (0.00)
Emotional functioning						0.05 (0.00) ^c	0.05 (0.00) ^c
Cognitive functioning						-0.01 (0.00)	-0.01 (0.00)
Social functioning						0.01 (0.00)	0.01 (0.00)
Fatigue						-0.01 (0.00)	-0.01 (0.00)
Pain						-0.02 (0.00)	-0.00 (0.00)
Satisfaction with interpersonal skills							0.01 (0.00) ^c
R ²		0.02	0.02	0.05	0.24	0.41	0.42

^aP < .05

^bP < .01

^cP < .001

being unaffiliated was associated with lower Faith. Being Christian and churchgoing was associated with higher levels of Meaning and Faith, and another religious affiliation with higher Peace and Faith. Two thirds (71%) of the sample reported one or more spiritual problems for which more than half of the patients (54%) wanted to receive attention. More spiritual problems were associated with lower Meaning and Peace. Of the demographic factors, there were only a few associations to Meaning, such as higher Meaning correlated with being female and having children, and lower Meaning correlated with not having a partner. Of the clinical factors, only breast cancer and a short life expectancy were associated with lower Meaning, and the latter with lower Faith. There were very small associations between the SWB subscales, the QoL factors, and interpersonal satisfaction with care, such as greater physical functioning with higher Meaning, and greater emotional functioning and satisfaction with higher

Meaning, Peace, and Faith. The R² of the final multivariable models was somewhat low for Meaning and a bit higher for Peace and Faith.

Our data showed lower mean scores of Meaning, Peace, and Faith compared to reference values for cancer survivors and newly diagnosed cancer patients, 8.9 vs. 13.7 and 14, 6.8 vs. 12 and 10.2, and 2.9 vs. 11.8 and 7.3 respectively.⁷ Mean scores for the three SWB subscales were close to other studies with Italian palliative patients,^{8,11} except for Faith, which was significantly lower (the Italian scores were 7.4 and 7.9 vs. 2.9). Cross-tabulation revealed that patients that were not churchgoing Christians or unaffiliated scored low on the Faith items, which might indicate that the Faith subscale may be less appropriate for a secular context. Patients may have had little affinity with the items asked. This hypothesis is supported by the results of the multivariable analyses, in which Faith is positively associated with

Table 5
Multivariable Models of Faith (N = 1,103)

Variable (reference group)	Values	Model 1 B (SE)	Model 2 B (SE)	Model 3 B (SE)	Model 4 B (SE)	Model 5 B (SE)	Model 6 B (SE)
Age		0.05 (0.01) ^c	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.00 (0.01)
Gender (male)	Female	0.52 (0.25) ^a	0.29 (0.21)	0.16 (0.23)	0.19 (0.23)	0.23 (0.23)	0.23 (0.23)
Marital status (partnered)	No Partner	0.07 (0.32)	0.13 (0.26)	0.17 (0.27)	0.16 (0.27)	0.18 (0.27)	0.22 (0.27)
Children (yes)	No	-0.46 (0.33)	-0.46 (0.28)	-0.42 (0.29)	-0.41 (0.29)	-0.42 (0.29)	-0.40 (0.29)
Education (low)	Medium	-0.42 (0.49)	-0.01 (0.25)	0.02 (0.24)	-0.04 (0.25)	-0.08 (0.24)	-0.06 (0.24)
	High	-0.16 (0.30)	-0.14 (0.25)	-0.06 (0.26)	-0.16 (0.27)	-0.19 (0.27)	-0.15 (0.27)
Religious affiliation (Protestant or Catholic, not churchgoing)	Protestant or Catholic, churchgoing		40.82 (0.27) ^c	40.77 (0.27) ^c	40.77 (0.27) ^c	40.70 (0.27) ^c	40.70 (0.27) ^c
	Other		20.43 (0.40) ^c	20.53 (0.40) ^c	20.53 (0.40) ^c	20.64 (0.41) ^c	20.70 (0.41) ^c
	No affiliation		-10.24 (0.21) ^c	-10.19 (0.21) ^c	-10.21 (0.21) ^c	-10.26 (0.21) ^c	-10.24 (0.21) ^c
Primary tumor (lung)	Colorectal			0.21 (0.29)	0.18 (0.29)	0.23 (0.29)	0.23 (0.29)
	Breast			0.35 (0.32)	0.31 (0.32)	0.28 (0.32)	0.29 (0.32)
	Prostate			-0.11 (0.35)	-0.08 (0.35)	-0.03 (0.35)	-0.01 (0.35)
	Other			0.47 (0.26)	0.45 (0.26)	0.44 (0.26)	0.47 (0.26)
Treatment in the past three months (yes)	No			0.15 (0.22)	0.15 (0.22)	0.08 (0.22)	0.05 (0.22)
Life expectancy according to patient (not communicated/I don't know)	>1 yr			-0.29 (0.26)	-0.31 (0.26)	-0.30 (0.26)	-0.33 (0.26)
	<1 yr			-10.01 (0.32) ^b	-0.96 (0.34) ^b	-0.88 (0.34) ^a	-0.91 (0.34) ^b
	I don't want to know			-0.18 (0.34)	-0.15 (0.34)	-0.14 (0.34)	-0.18 (0.34)
	Other			0.20 (0.35)	0.14 (0.35)	0.13 (0.35)	0.08 (0.35)
Spiritual problems					-0.10 (0.05) ^a	-0.05 (0.05)	-0.05 (0.05)
Spiritual needs					0.01 (0.05)	0.04 (0.06)	0.06 (0.06)
Physical functioning						-0.00 (0.01)	-0.00 (0.01)
Role functioning						0.01 (0.01)	0.01 (0.01)
Emotional functioning						0.01 (0.01) ^a	0.01 (0.01) ^a
Cognitive functioning						0.00 (0.01)	0.00 (0.01)
Social functioning						-0.00 (0.01)	-0.00 (0.01)
Fatigue						0.01 (0.01)	0.00 (0.01)
Pain						-0.00 (0.00)	-0.00 (0.00)
Satisfaction with interpersonal skills							0.01 (0.00) ^a
R ²		0.02	0.34	0.34	0.35	0.35	0.35

^aP < .05^bP < .01^cP < .001

being a churchgoing Christian and other affiliations and negatively associated with being unaffiliated.

Quite a substantial proportion (71%) of these Dutch patients reported one or more spiritual problems, which was associated with lower levels of Meaning and Peace. The majority (54%) reported wanting attention for their spiritual problems. This suggests that existential questions are independent of religious beliefs, since, in a secular country in which religion is not an active part of most peoples' lives, patients indicate they are struggling with spiritual problems. This pattern of spiritual needs for non-religious patients has also been demonstrated in previous research.³⁴ Moreover, they would like to receive support around these matters. Why is there no association between spiritual problems and Faith? Possibly because this subscale does not seem to function well in a secular sample. Furthermore, why does the association in the multivariable models between Meaning, Peace, and spiritual needs disappear after adding the QoL factors? Probably because

spiritual needs are confounded with emotional well-being. These are interesting questions for future research.

We found similar factors associated to SWB as in other studies with palliative patients, such as lower levels of Meaning for patients without a partner,^{9,11} and higher levels of Meaning, Peace, and Faith for churchgoing Christians or otherwise affiliated patients.¹⁴ Associations to QoL were also similar to other studies, such as higher levels of Meaning to greater physical functioning^{1,10–12,14} and higher levels of Meaning, Peace, and Faith to emotional functioning.^{1,10} However, the associations in this study were close to zero and may not be clinically relevant; their statistical significance may be due to our large sample.³⁵ Moreover, associations between Peace and emotional well-being could be attributed to overlap between the concepts. New were the findings that being female, having children, having breast cancer, having a life expectancy of less than a year, and being satisfied with interpersonal care

skills of healthcare professionals impacted levels of SWB. It is hard to interpret the findings associated with gender, children, and breast cancer, so they deserve further investigation. The association of SWB with a short life expectancy points to the possibility that awareness of the closeness of death creates spiritual concerns that may erode SWB. The association of satisfaction with interpersonal skills might indicate that feeling listened to, personally attended, comforted, and supported aids patients to experience meaning, peace, and faith.

This study has some limitations. First, the sample is a convenience sample of volunteers, so the generalizability may be limited. Second, the Faith subscale appears to be unreliable for a secular context, leaving only the Meaning and Peace subscales for further interpretations. Future research can focus on an adaptation of Faith items to make the FACIT-Sp-12 more suitable for secular contexts. This could include in questions not just referring to faith, but also to meaning-making. Third, because the data was cross-sectional, causal inferences could not be made. An interesting area for future research would be longitudinal studies that permit an investigation of trajectories of SWB over time,³⁶ exploring, for example, if levels of SWB elevate, stay the same, or decrease along illness progression.

Next to the areas for future research indicated above, future research could study if Meaning, Peace, and Faith are states or traits: are they affected, for example, by other QoL dimensions such as physical functioning, thereby fluctuating, or are they part of a spiritual practice that has been trained or grounded in one's worldview and therefore stay the same no matter the circumstances. Finally, future studies could explore if the subscale Meaning that presently includes meaning and purpose may conceal distinctions between these two concepts. For example, palliative patients might experience meaning, but might struggle with notions of purpose.

The results of this study indicate that Dutch patients with advanced cancer experience medium to low levels of Meaning, Peace, and Faith. Lower levels of SWB are associated with more spiritual problems. The majority of patients welcomes attention for spiritual needs. However, of the quarter of Dutch patients who received palliative care in 2015, only 13% received support from a spiritual caregiver.³⁷ Moreover, most palliative care teams indicated that their team lacked expertise in spiritual care.³⁸ In the past years, a chaplain-led spiritual care training for hospital staff in the Netherlands has showed promising results for staff as well as patients.^{39,40} To further improve attention to the spiritual dimension, De Graaf and colleagues⁴¹ suggest the use of spiritual assessment tools to support healthcare professionals in discussing spiritual needs with their patients. In the past year, three such tools have been

developed and tested in the Dutch palliative care context (manuscript in preparation). The questions of these tools can easily be integrated into usual conversations with patients so will not require much additional effort. Another recently developed tool in this area is the Utrecht Symptom Diary-4 Dimensional (USD-4D) in which patients monitor their spiritual well-being on a biweekly basis.⁴² Finally, De Graaf and colleagues⁴¹ recommend the development of a common language for chaplains and other healthcare professionals as a base for interdisciplinary collaboration. Such collaborations increasingly find places within palliative care teams that more frequently include a chaplain as a spiritual care specialist.³⁸ In the Netherlands, the attention to the spiritual dimension of palliative care has been growing in recent years; this study supports the importance of this development.

Disclosures and Acknowledgments

The authors declare no competing interests. The authors thank all patients for giving their time and effort to advance science. We also want to thank the participating hospitals for informing and recruiting patients for this study. Finally, we would like to thank all research assistants from Patient Reported Outcomes Following Initial treatment and Long-term Evaluation of Survivorship for all their efforts concerning the data collection of the eQuiPe study.

Editorial Comment

David Cassarett, MD, MA, Editor-in-Chief. Studies on spirituality in palliative care are rare and this is an interesting and important contribution.

Supplementary materials

Supplementary material associated with this article can be found in the online version at [doi:10.1016/j.jpainsymman.2021.10.004](https://doi.org/10.1016/j.jpainsymman.2021.10.004).

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