Predictors of spirituality at the end of life

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ABSTRACT

OBJECTIVE To assess the relationship between spirituality and hopelessness, desire for hastened death, and clinical and disease-related characteristics among patients with advanced cancer, and to investigate predictors of spirituality. Spiritual well-being is thought to have a beneficial effect on patients' response to illness.

DESIGN Patients were asked to complete 4 questionnaires: the Greek version of the Spiritual Involvement and Beliefs Scale, the Greek version of the Schedule of Attitudes toward Hastened Death, the Beck Hopelessness Scale, and a questionnaire on demographics.

SETTING A palliative care unit in Athens, Greece.

PARTICIPANTS A total of 91 patients with advanced cancer.

MAIN OUTCOME MEASURES Associations between scores on the Spiritual Involvement and Beliefs scale and scores on the Schedule of Attitudes toward Hastened Death scale and the Beck Hopelessness scale, and demographic characteristics.

RESULTS Statistically significant associations were found between spirituality and sex of patients ($P = .001$) and spirituality and stronger hopelessness ($r = 0.252$, $P = .016$). In multivariate analyses, stronger hopelessness, male sex, younger age, and receiving chemotherapy were found to be the strongest predictors of being spiritual.

CONCLUSION Demographic and clinical characteristics and stronger hopelessness appeared to have statistically significant relationships with spirituality. Interventions to improve patients' spiritual well-being should take these relationships into account.

EDITOR'S KEY POINTS

- Terminal cancer patients in a Greek palliative care unit were asked to complete 3 validated questionnaires so researchers could assess their levels of spirituality, hopelessness, and desire for hastened death.
- The researchers then looked for associations among the scores on the questionnaires and the characteristics patients reported to find predictors of spiritual well-being. Higher levels of spiritual well-being have been associated with lower levels of various aspects of psychological distress, such as depression, despair, and suicidal thoughts. Interestingly, this study found that patients with higher levels of hopelessness were more likely to be spiritual.
- Spiritual well-being is thought to have a beneficial effect on patients' response to illness, so it is important for palliative care physicians to foster patients' spiritual well-being and help them develop a sense of meaning in life and peace within themselves. This could improve patients' mental health and help them avoid despair at the end of life.

*Full text is available in English at www.cfp.ca.

This article has been peer reviewed.
Can Fam Physician 2008;54:1720-1.e1-5

Indicateurs de spiritualité en fin de vie

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RÉSUMÉ

OBJECTIF Évaluer la relation entre la spiritualité, le désespoir, le désir de hâter la mort et les caractéristiques cliniques et relatives à la maladie chez des patients à un stade avancé du cancer, et examineé les indicateurs de spiritualité. On croit que le bien-être spirituel a un effet bénéfique sur la réaction des patients à la maladie.

TYPE D'ÉTUDE On a demandé aux patients de répondre à 4 questionnaires: les versions grecques de Spiritual Involvement and beliefs Scale et de Schedule of Attitudes toward Death, le Beck Hopelessness Scale et un questionnaire sur les caractéristiques démographiques.

CONTEXTE Une unité de soins palliatifs à Athènes, en Grèce.

PARTICIPANTS Un total de 91 patients à un stade avancé du cancer.

PRINCIPAUX PARAMÈTRES À L'ÉTUDE Association entre les caractéristiques démographiques et les scores obtenus à l'aide de la Spiritual Involvement and Beliefs Scale, du Schedule of Attitudes toward Hastened Death et de la Beck Hopelessness scale.

RÉSULTATS On a trouvé des associations significatives entre la spiritualité et le sexe des patients (P=.001), et entre la spiritualité et un désespoir plus profond (r=0.254, P=.016). Selon l'analyse multivariable, le désespoir plus profond, le sexe masculin, le plus jeune âge et le fait de recevoir de la chimiothérapie étaient les plus sérieux indices d'une vie spirituelle active.

CONCLUSION Les caractéristiques démographiques et cliniques et l'intensité du désespoir semblaient présenter une relation significative avec la spiritualité. On devrait tenir compte de ces relations lors d'interventions destinées à améliorer le bien-être spirituel des patients.

POINTS DE REPÈRE DU RÉDACTEUR

- On a demandé à des cancéreux en phase terminale d'une unité grecque de soins palliatifs de répondre à trois questionnaires de validité établie permettant d'évaluer leur niveau de spiritualité, leur désespoir et leur désir de hâter leur mort.
- Les chercheurs ont ensuite recherché des associations entre les scores obtenus aux questionnaires et les caractéristiques qui, selon les patients, étaient des indicateurs de bien-être spirituel. Il y avait une association entre un niveau élevé de bien-être spirituel et les niveaux les plus faibles de diverses formes de détresse psychologique comme la dépression, le désespoir et les idées suicidaires. Chose intéressante, cette étude a montré que les patients avec le plus fort sentiment de désespoir étaient plus portés vers la spiritualité.
- On croit que le bien-être spirituel a un effet bénéfique sur la réponse des patients à la maladie, et il est donc primordial pour le médecin de favoriser le bien-être spirituel des patients, et de les aider à découvrir le sens de leur vie et à trouver la paix intérieure. Cela pourrait améliorer la santé mentale des patients et les aider à éviter de sombrer dans le désespoir en fin de vie.

*Le texte intégral est accessible en anglais à **www.cfp.ca.**
Cet article a fait l'objet d'une révision par des pairs.
Can Fam Physician 2008;54:1720-1.e1-5

Spiritual attitudes greatly influence patients' approach to medical care.[1] Many physicians and health care professionals recognize that addressing their patients' spiritual needs is important in the routine practice of palliative medicine and palliative care.[2,3] The phenomenon of spirituality seems to have a beneficial influence on patients' ability to cope with the process of dying.[4]

Study of the relationship between spirituality and cancer is in its infancy. Recently, much more attention has been paid to areas in critical need of greater rigour, such as measurements and definitions, and pathways that could link spiritual well-being to health or adjustment to illness.[5]

Six major themes repeatedly emerge as essential components of psychospiritual well-being: self-awareness, coping with and adjusting effectively to stress, relationships and connectedness with others, a sense of faith, a sense of empowerment and confidence, and living with meaning and hope.[6] Several researchers have demonstrated that, among severely ill patients, higher levels of spiritual well-being are associated with lower levels of various aspects of psychological distress, such as depression, hopelessness, a desire for hastened death, and suicidal thoughts.[7]

Systematic research addressing the relationship between spiritual well-being and end-of-life despair is virtually nonexistent.[7] Results of a few studies report an association between spiritual well-being and a sense of hope in the context of medical illness[8]; however, the relationship between spiritual well-being and desire for hastened death has rarely been studied. In 1 study, Breitbart and colleagues reported that spiritual well-being was negatively correlated with desire for hastened death among terminally ill cancer patients ($P<.001$).[9]

We aimed to assess the relationships between spirituality and feelings of hopelessness and desire for hastened death in a sample of terminally ill cancer patients. In addition, we sought to investigate whether hopelessness, desire for hastened death, and patients' clinical and demographic characteristics could help predict whether these patients were spiritual.

METHODS

The study took place in a palliative care unit in Athens, Greece, from February to June 2006. Patients suffering from incurable cancer attend the unit for pain relief and cancer-related symptoms. Criteria for inclusion in the study were histologically confirmed malignancy, age greater than 18 years, an ability to read and write Greek, an ability to communicate effectively with health care professionals, and being able to provide informed consent. Patients were excluded if they had a history of drug abuse or of psychotic illness. To be eligible for the study, patients were required to score 20 or more on the Mini-Mental State Examination.[10] Patients were seen individually either at the outpatient unit or on the hospital wards. Of 194 cancer patients approached, 112 fulfilled the criteria and were eligible for the study. Only subjects who completed all the study instruments fully were included in the final analysis; 21 (18.7%) patients did not complete the assessment forms, either because they refused (n=12) or lived too far away (n=9), and were excluded from the study. The final sample consisted of 91 patients (**Tables 1** and **2**). Participants were asked to complete 3 questionnaires: the Greek version of the Spiritual Involvement and Beliefs Scale (SIBS),[11] the Greek version of the Schedule of Attitudes toward Hastened Death (G-SAHD),[12] and the Beck Hopelessness Scale (BHS).[13] A self-report demographic questionnaire asked for information on patients' age, sex, and level of education. In addition, either a nurse at the study site or the investigator completed a medical record form for each patient. Disease status information included cancer diagnosis and past anticancer treatment (chemotherapy, radiotherapy). Any identifying information was stored separately from information from the questionnaires. The study design and materials were reviewed and approved by the Institutional Review Board at Areteion University Hospital in Athens.

Instruments

The SIBS consists of 26 questions scored on a 5-point scale (strongly agree, agree, neutral, disagree, or strongly disagree). It has 4 loosely specific domains: internal beliefs; external practices; personal applications, such as practising humility and forgiveness toward other people; and existential and meditative beliefs. Internal beliefs are assessed with statements such as, "I can find meaning in times of hardship." External practices are described with statements such as, "During the last month, I participated in spiritual activities with at least 1 other person (0 times, 1-5 times, etc)." Humility and forgiveness are assessed with statements such as, "When I wrong someone, I make an effort to apologize." Existential and meditative beliefs are investigated using statements such as, "A spiritual force influences my life."[1] Scores can range from 26 to 130, with high scores indicating that a person is highly spiritual. The SIBS has been translated and validated with a sample of Greek patients with advanced cancer; the overall α was 0.899.[11]

The Schedule of Attitudes toward Hastened Death (SAHD) assesses patients' desire for hastened death. This instrument uses a true-or-false format and encompasses several potential aspects of desire for death including concerns about future quality of life, personal factors that might influence desire for death, and direct thoughts on hastened death. The cut-off score was the one used in previous validation studies[14]: 7 or greater (more than 1 standard deviation above the mean) would

suggest a fairly high level of desire for death while a more conservative cut-off score of 11 or greater would suggest a strong desire for death. The overall α of the G-SAHD[12] was 0.89.

The BHS[13] is a 20-item self-report inventory designed to identify a general tendency toward pessimism and negative expectations. Based on the original cut-off scores,[15] subjects were classified into 4 groups: no hopelessness at all (0-3), mild hopelessness (4-8), moderate hopelessness (9-14), and severe hopelessness (15-20). Beck et al[13] extracted 3 factors. The first factor was described as *affective* (lack of hope), the second factor was characterized as *motivational* (giving up), and the third factor was labeled *cognitive* (lack of future expectations). The overall α of the BHS was 0.937.

Statistical analysis

Basic descriptive statistics were computed for the sociodemographic variables. Means, standard deviations, and ranges for all scale variables measured in the study were calculated for patients. Spearman rank correlation coefficients and *t* tests or analyses of variance were calculated to examine associations between spirituality (SIBS), hopelessness (BHS), and desire for hastened death (G-SAHD) scores, as well as between SIBS scores and patients' demographic and clinical characteristics.

Multiple regression models were constructed to examine the extent to which hopelessness, desire for hastened death, and demographic and clinical characteristics can predict patients' spirituality. All statistical analyses were performed using SPSS version 10.0 for Windows.

RESULTS

Descriptive results

Mean age of participants was 63.2 years (range 33 to 86 years). There were 45 men and 46 women, and their mean number of years of education was 10.04 (range 0 to 16). Gastrointestinal cancer was diagnosed in 31.9% patients, urogenital cancer in 28.6%, and breast cancer in 19.8%. More than half the patients (62.6%) had undergone chemotherapy and had metastatic disease (58.2%) (**Table 1**). Mean score for spirituality was 67.49 (SD ± 8.12, range 53 to 98). Mean score for hopelessness was 8.24 (SD ± 6.72, range 0 to 20); 22% of subjects had a G-SAHD score ≥ 7. Mean score for desire for hastened death was 3.92 (SD ± 4.91, range 0 to 17) (**Table 2**). On the hopelessness scale, 35.3% of participants felt no hopelessness, 23.0% mild hopelessness, 17.6% moderate hopelessness, and 24.1% severe hopelessness.

Associations

The strongest associations with spirituality were subjects' sex ($P = .001$) (**Table 3**) and level of hopelessness (BHS, $r = 0.252$, $P = .016$) (**Table 4**).

Table 1. Patients' demographic and disease-related characteristics: *N* = 91.

CHARACTERISTIC	N	%
Sex		
• Male	45	49.5
• Female	46	50.5
Cancer location		
• Gastrointestinal	29	31.9
• Urogenital	26	28.6
• Breast	18	19.8
• Lung	13	14.3
• Other	5	5.5
Metastasis		
• No	38	41.8
• Yes	53	58.2
Chemotherapy		
• No	34	37.4
• Yes	57	62.6
Radiotherapy		
• No	64	70.3
• Yes	27	29.7

Table 2. Descriptive statistics

SCORES AND CHARACTERISTICS	MEAN (STANDARD DEVIATION, RANGE)
Age, y	63.21 (12.20, 33.00-86.00)
Education, y	10.04 (4.80, 0.00-16.00)
Spiritual Involvement and Beliefs Scale (Greek version) score*	67.49 (8.12, 53.00-98.00)
Beck Hopelessness Scale score†	8.24 (6.72, 0.00-20.00)
Schedule of Attitudes toward Hastened Death (Greek version) score‡	3.92 (4.91, 0.00-17.00)

*Scores can be between 26 and 130; higher scores indicate stronger spirituality.
†Score of 0-3 indicates no hopelessness at all; 4-8 indicates mild hopelessness; 9-14 indicates moderate hopelessness; 15-20 indicates severe hopelessness.
‡Score < 7 indicates low desire for death; ≥ 7 indicates stronger desire for death.

Multiple regression

Multiple regression analyses were conducted to identify the strongest predictors of spirituality among advanced cancer patients. The "enter" method showed that all variables ($F_{8,82} = 5.04$, $P < .0005$) explained 33% of the variability in spirituality scores (**Table 5**). Being male ($P < .0005$) was the strongest predictor of whether patients were spiritual. Similarly, patients with higher levels of hopelessness had significantly higher scores on spirituality ($P = .011$). Less strong but still significant was the relationship between spirituality and having

Table 3. Associations between scores on the Spiritual Involvement and Beliefs Scale and scores on the Schedule of Attitudes toward Hastened Death and demographic and disease-related characteristics

SCORES AND CHARACTERISTICS	SPIRITUAL INVOLVEMENT AND BELIEFS SCALE SCORE* MEAN (STANDARD DEVIATION)	*P*
Schedule of Attitudes toward Hastened Death (Greek version)		.339
• Score < 7	67.06 (7.74)	
• Score ≥ 7	69.18 (9.68)	
Sex		.001†
• Male	70.22 (9.06)	
• Female	64.83 (6.07)	
Metastasis		.819
• No	67.26 (8.62)	
• Yes	67.66 (7.82)	
Chemotherapy		.142
• No	69.12 (8.31)	
• Yes	66.53 (7.91)	
Radiotherapy		.265
• No	66.88 (7.57)	
• Yes	68.96 (9.28)	
Cancer location		.454
• Gastrointestinal	70.10 (7.33)	
• Lung	67.69 (6.46)	
• Urogenital	68.35 (9.85)	
• Breast	64.11 (6.57)	
• Other	64.62 (5.86)	

*Scores can be between 26 and 130; higher scores indicate stronger spirituality.
†Indicates a significant comparison.

Table 4. Correlation between spirituality (Spiritual Involvement and Beliefs Scale score), age, education, and hopelessness (Beck Hopelessness Scale score)

CHARACTERISTICS AND BECK HOPELESSNESS SCALE SCORE	SPIRITUAL INVOLVEMENT AND BELIEFS SCALE SCORE SPEARMAN *R*	*P* VALUE
Age	-0.121	.255
Education	-0.011	.915
Beck Hopelessness Scale score	0.252	.016*

*Indicates a significant correlation.

chemotherapy ($P = .002$) and between spirituality and younger age ($P = .009$). No other clinical or demographic variables contributed significantly to prediction of spirituality scores (**Table 5**). Similar results were found using the stepwise method ($F_{4,86} = 8.91$, $P < .0005$), where the predictor variables explained 29.3% of the variability in spirituality scores (**Table 6**). Male sex ($P < .0005$) and higher levels of hopelessness ($P < .0005$) were the strongest predictors of high spirituality scores. Less strong but still significant were the relationships between spirituality and having chemotherapy ($P = .008$) and between spirituality and younger age ($P = .033$).

Table 5. Predictors of spirituality: *Multiple regression analysis ("enter" method) of spirituality (Spiritual Involvement and Beliefs Scale score) with hopelessness (Beck Hopelessness Scale score), desire for hastened death (Schedule of Attitudes toward Hastened Death—Greek version score), and demographic and disease-related characteristics;* $R^2 = 0.330$, $F_{8,82} = 5.04$, $P < .0005$).

INDEPENDENT VARIABLES	β	STANDARD ERROR	*P* VALUE
Constant	92.832	6.968	< .0005*
Beck Hopelessness Scale	0.431	0.165	.011*
Schedule of Attitudes toward Hastened Death—Greek version	-0.002	0.226	.993
Sex	-6.542	1.581	< .0005*
Age	-0.186	0.069	.009*
Education	-0.322	0.183	.102
Metastasis	-1.605	1.564	.308
Chemotherapy	-5.321	1.649	.002*
Radiotherapy	0.737	1.718	.669

*Significant predictors.

DISCUSSION

Addressing spiritual needs and existential questions with dying patients could be a crucial aspect of their psychological functioning[16] and is an increasingly interesting aspect of care. A growing body of qualitative research published during the past several years has examined the role of spirituality in coping with cancer. This body of research has varied in terms of methodology, sites and stages of disease, and study objectives.[17]

Although understanding the mechanism by which spiritual well-being affects psychological functioning, and vice versa, is difficult, this study attempted to explore the influence of hopelessness (BHS score) and desire for hastened death (G-SAHD score) on the spiritual involvement and beliefs of advanced cancer patients. The authors also examined the association and predictive power of demographic (age, sex, years of education) and clinical (metastasis, anticancer treatment, cancer location) characteristics on whether patients were spiritual.

Univariate analysis revealed that, among the demographic and clinical characteristics, only sex had a statistically significant relationship with spirituality scores. Male patients had higher scores than female patients. On the other hand, only higher levels of hopelessness

correlated significantly with spirituality; desire for hastened death did not. In a study by Rosenfeld et al,[18] measures of spiritual well-being and the desire for hastened death were found to be the strongest correlates with hopelessness. Feelings of hopelessness are common among patients as they approach the terminal phase of illness.[19] Many patients have a great sense of despair during their final weeks or months of life. End-of-life despair could manifest itself as general feelings of hopelessness or demoralization or, in extreme cases, might develop into a desire for hastened death. Results of studies of terminally ill patients consistently show a higher risk of hopelessness among them than in the general population.[9] This is in accordance with our findings: 24.1% of participants in our study were classified as having severe hopelessness. A multiple-study review by Levin[20] has also suggested that spirituality is strongly related to psychological well-being. Higher spirituality scores have been found to predict specifically active and optimistic coping styles.[21] Our results differed on this point, perhaps because feelings of depression and hopelessness are common reactions at the end of life. Surprisingly, however, terminally ill cancer patients can maintain a sense of peace and spiritual well-being without necessarily feeling optimistic about the future.[7]

Multiple regression analysis showed that male sex, younger age, stronger hopelessness, and having chemotherapy are strong predictors of spiritual involvement and beliefs. There is evidence that the association between spirituality or religion and health is not the same for men as for women.[22] Few studies have been designed to address this issue directly. This is 1 of only a few studies to find more spirituality among men than among women, and the first study to examine this in a Greek population. Religious denominations might influence differences between men and women in coping with ill health in several ways. Some research[23] emphasizes the fact that women's and men's involvement in, and experience of, organized religion is influenced by their relative standing in societies where sex has important social implications.

Hopelessness has been implicated in a variety of conditions, including physical illness.[24] Some studies report an association between spiritual well-being and a sense of hope in the context of medical illness.[9] Others have explored the role of hope in coping with cancer across a spectrum of patients ranging from newly diagnosed patients[25] to cancer survivors[26] to those with end-stage disease.[27]

Although other studies[28] have found that, as people age, aspects of spirituality or religion sometimes increase or become more important in these patients' lives and that older people tend to be more religious, our study showed that younger age was a predictor of spirituality. This could stem from the fact that younger patients might struggle more with questions about the meaning of life, the purpose of life, their mortality, and life after death. Unfortunately, we could not find any relevant articles consistent with our results.

The finding that chemotherapy might be a predictor of spirituality is interesting and needs further study since this issue has not been studied on its own.

Limitations

This study had a relatively small sample size. Our findings need to be replicated in larger samples to be confirmed. Since the study was conducted in a single palliative care unit in Athens, Greece, it is possible that the patients in this setting were not representative of terminally ill cancer patients in the Greek population as a whole or of terminally ill cancer patients in other countries in the world. Also, the term *spirituality* is difficult to define and might have different meanings for different people in various settings.

Conclusion

The powerful effect of spiritual well-being on the amount of psychological distress patients have[7] has important implications for treatment. Interventions aimed at fostering patients' spiritual well-being and helping them develop a sense of meaning in life and peace within themselves can have substantial benefits for improving their mental health at the end of life. More important, by separating such interventions from religion and religious beliefs, these interventions can have a broader appeal for patients who do not hold strong traditional religious beliefs and can be managed by a range of mental health clinicians, regardless of their own beliefs.

Table 6. Predictors of spirituality: *Multiple regression analysis (stepwise method) of spirituality (Spiritual Involvement and Beliefs Scale score) with hopelessness (Beck Hopelessness Scale score) and demographic and disease-related characteristics;* $R^2 = 0.293$, $F_{4,86} = 8.91$, $P < .0005$.

INDEPENDENT VARIABLES	β	STANDARD ERROR	R^2 CHANGE	*P* VALUE*
Constant	83.399	4.919		< .0005
Sex	-5.593	1.467	0.112	< .0005
Beck Hopelessness Scale score	0.443	0.112	0.097	< .0005
Chemotherapy	-4.292	1.570	0.046	.008
Age	-0.134	0.062	0.038	.033

*All significant.

The results of this study could be useful both for recommending clinical strategies for evaluating and treating distressed cancer patients and for addressing the nature of the potential link between spirituality, hopelessness, and patients' sex and age.

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Contributors

Dr Mystakidou, Ms Tsilika, Ms Prapa, Ms Smyrnioti, Dr Pagoropoulou, and **Dr Lambros** contributed to concept and design of the study; data gathering, analysis, and interpretation; and preparing the manuscript for submission.

Competing interests

None declared

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