

**ONCOLOGIST ASSISTED SPIRITUAL INTERVENTION
STUDY (OASIS): PATIENT ACCEPTABILITY
AND INITIAL EVIDENCE OF EFFECTS***

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ABSTRACT

Purpose: Individuals with serious illness often desire to discuss spiritual concerns with their physician, yet substantial barriers exist to doing so, including limited evidence of value. This study evaluated acceptability, impact on satisfaction with care and on quality of life (QOL) of a brief (5-7 minute) semi-structured exploration of spiritual/religious concerns. *Patients and Methods:* 118 consecutive patients of four oncologist-hematologists (95% recruitment; 55.1% female, 91.5% Caucasian, 81.3% Christian) with mixed diagnoses, duration (51.7% diagnosed within 2 years) and prognosis (54.2% in active treatment) were alternately assigned to receive the intervention or usual care during an office visit. Assessment occurred just prior to the visit, immediately after, and after 3 weeks. Measures included the FACT-G QOL and FACIT-Sp (Spiritual Well-Being) Scales; BSI Depression

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Scale; the PCAS Interpersonal and Communication scales; and ratings of acceptability. *Results:* Oncologists rated themselves as comfortable during the inquiry with 85% of patients. Of patients, 76% felt the inquiry was “somewhat” to “very” useful. At 3 weeks, the intervention group had greater reductions in depressive symptoms ($F = 7.57, p < .01$), more improvement in QOL ($F = 4.04, p < .05$), and an improved sense of interpersonal caring from their physician ($F = 4.79, p < .05$) relative to control patients. Effects on QOL remained after adjusting for other variables, including relationship to physician. Improvement on Functional Well-being was accounted for primarily by patients lower on baseline spiritual well-being (beta = .293, $p < .001$). *Conclusions:* This study supports the acceptability of a semi-structured inquiry into spiritual concerns related to coping with cancer; furthermore, the inquiry appears to have a positive impact on perception of care and well-being.

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Key Words: spirituality, cancer, counseling, depression, QOL

INTRODUCTION

A serious illness creates a sense of vulnerability and significantly challenges a person's well-being. Patients often report drawing on religious and spiritual resources to cope with illness, and a substantial portion of patients want their physician to be aware of their spiritual or religious beliefs and concerns [1, 2]. Evidence suggests that religious and spiritual practices are associated with less patient discomfort, hostility, anxiety, and social isolation in cancer patients [3-5], may affect health status [6, 7], or impact on medical decisions [8]. Spiritual well-being, particularly a sense of meaning and peace, is associated with an increased ability to enjoy and engage life, despite high levels of cancer pain, fatigue, [9, 10] or terminal status [5].

How religious or spiritual concerns of patients with serious illness should be addressed is under active debate [11, 12], but generally receives limited attention in the clinical setting [13, 14]. Oncologists, while acknowledging the validity of such concerns, assign them relatively low priority even for late-stage patients [15] and may fail to consider spiritual well-being in evaluating overall quality of life [16]. Physicians also express concerns about lack of time, their lack of skills, and the appropriateness of such discussions within the context of the medical encounter [15, 17]. Finally, little data exists to support that addressing such concerns with a physician improves adjustment to illness; the evidence remains largely correlational [18, 19].

The Oncologist Assisted Spirituality Intervention Study (OASIS) was designed to evaluate a brief (5-7 minute) patient-centered approach to addressing spiritual concerns, using a format shown to be effective with other sensitive issues such

as smoking and alcohol use [20, 21]. It utilizes basic counseling and communication skills designed to empower the patient toward self-exploration and awareness, while establishing the provider as a source of empathic support [22]. As illustrated in Table 1, the OASIS inquiry is framed very broadly, is designed to encourage patients to identify ways they engage spiritual or religious resources, does not require any specific knowledge on the part of the physician, and closes by offering resources (such as a chaplain or support group) if indicated.

Table 1. Outline of the OASIS Patient-Centered Spirituality Inquiry

I. INTRODUCE ISSUE IN NEUTRAL INQUIRING MANNER.

“When dealing with a serious illness, many people draw on religious or spiritual beliefs to help cope. It would be helpful to me to know how you feel about this.”

II. INQUIRE FURTHER, ADJUSTING INQUIRY TO PATIENT’S INITIAL RESPONSE.

- a. **Positive-Active Faith Response:** “What have you found most helpful about your beliefs since your illness?”
- b. **Neutral-Receptive Response:** “How might you draw on your faith or spiritual beliefs to help you?”
- c. **Spiritually Distressed Response** (e.g., anger or guilt): “Many people feel that way . . . what might help you come to terms with this?”
- d. **Defensive/Rejecting Response:** “It sounds like you’re uncomfortable I brought this up. What I’m really interested in is how you are coping . . . can you tell me about that?”

III. CONTINUE TO EXPLORE FURTHER AS INDICATED.

“I see. Can you tell me more (about . . .)?”

IV. INQUIRE ABOUT WAYS OF FINDING MEANING AND A SENSE OF PEACE.

“Is there some way in which you are able to find a sense of meaning or peace in the midst of this?”

V. INQUIRE ABOUT RESOURCES.

“Whom do you have to talk to about this/these concerns?”

VI. OFFER ASSISTANCE AS APPROPRIATE AND AVAILABLE.

“Perhaps we can arrange for you to talk to someone . . .”; “. . . there’s a support group.”

VII. BRING INQUIRY TO A CLOSE.

“I appreciate you discussing these issues with me. May I ask about it again?”

The present study addressed two primary questions: 1) whether the OASIS approach to exploring spiritual or religious concerns is feasible and acceptable for physicians and patients; and 2) whether there is benefit to patients' well-being and adjustment to cancer. It was hypothesized that patients who explore spiritual or religious concerns with their oncologist would respond positively, experience their physician as more caring, and report positive changes on indicators of quality of life and mood, compared to patients who received usual care.

METHODS

Participants

Consecutive patients (total $N = 118$) were recruited in the waiting rooms of the participating oncologists' offices by MJR after being identified as meeting criteria by office staff. There were no restrictions to enrollment based upon diagnosis, reason for office visit or prognosis. Exclusion criteria were inability to provide informed consent, age less than 21, or less than one month from diagnosis. We wished to include even individuals who might be somewhat uncomfortable with the topic of spirituality or religion; therefore, patients were informed that the study focused on physician communication regarding issues such as "social support, family adjustment, emotional adjustment, spiritual/religious concerns, smoking, nutrition, exercise, or other relevant issues." Of those approached, approximately 95% agreed to participate and completed an Informed Consent Form, approved by the IRBs of the respective institutions; those refusing generally cited time constraints.

Assignment to Intervention

Patients were alternately assigned to usual care or to the OASIS intervention in order of giving consent. Alternate, rather than true randomized, assignment was used to accommodate the physicians' request to decrease potential burden (i.e., by possibly having to deliver several interventions in a row). Neither office staff nor the participating oncologist influenced assignment. The person making the assignment (the second author, MJR) had no prior knowledge of patients, nor were physicians aware of the assignment until immediately prior to entering the examination room.

Intervention

Oncologists and Training Materials

Four oncologists-hematologists from two community practices and a university-based hematologic malignancy clinic (LDC) volunteered to participate in the study. All were male; two were Christian, one was Hindu and one a Sikh. Each participated in a 2-3 hour training program that provided an overview of the study objectives and procedures, reviewed basic principles of patient-centered communication, and

provided training in the use of the OASIS protocol. A videotape of the first oncologist trained (LDC) with a simulated patient supplemented the instructional material. Ways of introducing the inquiry and possible patient responses were modeled, followed by role-playing and feedback. The training was modeled on one effectively used to train physicians in brief, patient-centered smoking and alcohol interventions [20, 21, 23].

The OASIS Model

The OASIS model uses a brief semi-structured standardized format (see Table 1) that utilizes open-ended questions based on principles of patient-centered counseling and relationship-centered care. Such an approach communicates the physician's interest in the patient's experience, and also encourages individuals to consider these issues more deeply themselves [22]. It is important to distinguish the conceptual framework of this approach from that of taking a medical or spiritual "history," in which the goal is to collect information about the patient for the purpose of providing future care. Rather, the structure is intended to facilitate communication between the patient and physician and to empower the patient, if need be, to more fully consider his or her own issues and resources in this domain.

The oncologist introduces the topic by acknowledging spirituality or religious belief as a potential resource for coping, then explores how the patient utilizes spiritual or religious beliefs in coping with cancer. Further exploration is tailored to how the patient initially responds (see Table 1, II: a-d). The "scripts" in Table 1 are abbreviated examples from the intervention material. The physician determined when within the visit the inquiry was initiated and was encouraged to use his own words in following the steps of the inquiry, and in providing reassurance, support, and referral to other resources such as a chaplain, as appropriate.

Study Objectives

The first objective of the study was to determine how acceptable a physician-initiated inquiry into religious/spiritual concerns is to patients. A validated measure of patient satisfaction with physician care was used to assess the patient's immediate response to the inquiry; a measure addressing value of and comfort with the inquiry was developed for this study. Oncologists also rated their interaction with each patient. Additional objectives were to examine the impact of the inquiry on adjustment to cancer as indicated by measures of quality of life, depressed mood, and spiritual well-being.

Measures

Baseline/Time 1 assessment (immediately before a physician visit) included demographic and disease characteristics, quality of life (the Functional Assessment of Chronic (FACT-G)), mood (the Depression sub-scale of the Brief

Symptom Inventory (BSI)), religious engagement (the Duke University Index of Religiosity (DUREL)), the Spiritual Well-Being scale of the FACT (FACIT-Sp) and satisfaction with physician care (the Primary Care Assessment Survey (PCAS)). Items addressing other topics (e.g., diet, smoking and alcohol use) were included to disguise the focus on spiritual and religious well-being but were not analyzed. Immediately post-visit (Time 2) patients again completed the BSI-D and the PCAS. Physicians also assessed each interaction immediately afterwards. Three weeks later patients were re-assessed by telephone by MJR, completing the FACT-G, BSI-D, FACIT-Sp, DUREL and PCAS.

Demographic Information

Demographic information included age, sex, income, education, religious denomination, and marital status. Cancer-specific information included type of cancer, time since diagnosis, number of previous office visits with the oncologist, and patients' own perception of their cancer status (first diagnosis; relapse; remission; or "do not know").

Functional Assessment of Cancer Therapy-General (FACT-G)

FACT-G [24], a widely used measure of cancer-related quality of life in the "past 7 days," contains 29 Likert-type items on four subscales: Physical, Social/Family, Emotional, and Functional Well-Being, scored separately and as total QOL. The Physical Well-Being subscale addresses physical feelings and symptoms; the Social/Family subscale addresses social support and family communication; the Emotional Well-Being Subscales addresses general emotional symptoms regarding the illness; the Functional Well-Being subscale addresses functional ability including ability to work, enjoyment, and contentment. Cronbach's alphas range from .72 to .85.

Brief Symptom Inventory: Depression Subscale (BSI-D)

The BSI-D [25], used as an indicator of general mood, consists of 7 items (Cronbach's alpha = .85; test-retest correlation coefficient of .84).

The FACIT-Sp: Functional Assessment of Chronic Illness–Spiritual Well-Being Scale

This scale [12, 13] is a companion scale to the FACT-G, consisting of 12 items, with two sub-factors: Meaning and Peace, and Faith (overall Cronbach's alpha = .87; subscale alphas are .81 to .88).

The Duke University Index of Religiosity (DUREL)

The DUREL [26] consists of five items, with 3 sub-factors, and measures religious involvement and intrinsic religiosity (Cronbach's alpha = .75).

Primary Care Assessment Survey (PCAS) [27]

Two subscales, Interpersonal Treatment (5 items) and Communication (6 items) measured patient satisfaction with their relationship with their physician (both sub-scales have Cronbach's alphas of .95).

Patient and Physician Perceptions of the Inquiry

Patients answered 5 questions regarding the usefulness of the intervention, comfort level during the interaction, and satisfaction with their oncologist and medical care as a function of receiving the intervention. For each patient, oncologists indicated their level of comfort and confidence during the interaction, perceived acceptability to the patient (see Table 2), and estimated minutes spent on the intervention and for the total session.

Table 2. Patient Ratings of the Spirituality Intervention at Immediate (Time 2 ($n = 54$)) and 3-Week (Time 3 ($n = 49$)) Follow-Up

Item	Time ^a	Percentage by response				
		Not at all	A little	Some-what	Quite a bit	Very much
1. How comfortable were you discussing spiritual issues with your oncologist?	2	1.9	9.3	14.8	20.4	53.7
	3	0	6.1	8.2	28.6	57.1
2. How useful do you think this discussion was?	2	5.6	13.0	24.1	16.7	40.7
	3	2.0	20.4	18.4	24.5	34.7
3. How much do you think this discussion will influence how you cope with cancer?	2	18.5	7.4	16.7	24.1	33.3
	3	8.2	22.4	14.3	22.4	32.7
4. Does your M.D.'s willingness to discuss these issues make you more satisfied with your care?	2	16.7	5.6	18.5	14.8	44.4
	3	6.1	10.2	22.4	18.4	42.9

^aTime 2: Immediate follow-up; Time 3: 3-Week follow-up.

Statistical Analysis

The sample size was chosen to detect a medium effect size at power of .80 [28] on the primary variables. Post-hoc estimates of power ranged between .74 and .98 for *F* tests and .65 to .83 for regression analyses. Group differences at baseline were assessed using *t*-tests or chi-squares as appropriate, with alpha set at $p < .05$; *p* values between .10 and .05 are reported only to indicate a pattern across time points or the relative contribution of sub-scales. Zero-order correlations examined relationships among key baseline variables across the entire sample, and between certain outcome variables (i.e., patient and physician ratings) and predictor variables. ANOVAs (2×2) were used to assess changes between Time 1 (baseline) and each of the separate followup points. Multiple regression analyses, with confidence intervals calculated, further examined the effects of baseline variables and change scores on outcome.

RESULTS

Participant Flow

One hundred twenty-four patients who met basic criteria were approached for participation and 118 (95%) agreed to participate in the study. The first patient recruited in each clinic session was assigned to usual care, using alternate assignment thereafter, inadvertently resulting in uneven allocation to usual care ($n = 64$) or intervention ($n = 54$). There was no loss of patients from Baseline/Time 1 to Time 2. At Time 3 assessment (after 3 weeks), seven patients were lost to followup, two from the Usual Care group due to illness and five from the intervention group, two due to illness and three because their telephone was disconnected.

Baseline Characteristics

Of the participants, 55.1% were female, 91.5% were Caucasian, 69.5% were married and average age was 60 (range 23-82 years) (see Table 3a and 3b). Over 80% were Christian, with 15.3% not reporting an affiliation. Patients varied widely with regard to diagnosis and severity of illness, with about half in remission. On average, patients had had 18 visits (range: 2– >100) with the participating oncologist over an avg. 22-month period. There were no significant differences between groups on any baseline variables.

Measures of adjustment were correlated at baseline. Spiritual Well-Being (FACIT-Sp), but not the DUREL, was significantly related to emotional and functional well-being ($r = .58, p < .001$, for each), total FACT-G ($r = .57, p < .001$), depressed mood ($r = -.45, p < .001$), and the DUREL ($r = .33, p < .01$). For neither the FACIT-Sp nor the DUREL did patterns of response vary meaningfully among sub-factors, so both scales are presented as total scores.

Table 3a. Categorical Information on Demographic and Disease Characteristics

Variable	Usual care		SI group		Overall	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Sex						
Male	28	43.8	25	46.3	53	44.9
Female	36	56.2	29	53.7	65	55.1
Race						
White	59	92.2	49	90.7	108	91.5
Black	1	1.6	2	3.7	3	2.5
Other	4	6.2	3	5.6	7	5.9
Religious denomination						
Protestant	39	60.9	31	57.4	70	59.3
Catholic	13	20.3	13	24.1	26	22.0
Jewish and other	1	1.6	3	5.6	4	3.3
None reported	11	17.2	7	13.0	18	15.3
Types of cancer						
Lymphoma	15	23.4	11	20.4	26	22.0
Breast	12	18.8	7	13.0	19	16.1
Colon/Rectal	8	12.5	6	11.1	14	11.9
Lung	2	3.1	5	9.3	7	5.9
All others	27	42.2	25	46.3	52	44.1
Status of cancer						
Active disease (1st Dx)	17	26.6	11	20.4	28	23.7
Relapse	12	18.8	4	7.4	16	13.6
Remission	27	42.2	27	50.0	54	45.8
Don't know	8	12.5	12	22.2	20	16.8

SI = Spiritual Intervention

Among demographic and medical variables, only cancer status related to mood. Patients in remission as compared to all others (1st diagnosis, relapse, or not knowing status) reported greater functional ($M = 20.4$ vs. $M = 18.1$; $F(1, 116) = 4.6, p < .05$) and emotional well-being ($M = 19.8$ vs. $M = 18.3$; $F(1, 116) = 3.9, p = .05$), as well as overall quality of life ($M = 92.9$ vs. $M = 85.6$; $F(1, 114) = 6.0, p < .05$). This pattern did not change if patients who reported not knowing their status ($n = 8$) were grouped with those in remission.

Table 3b. Mean Values and Standard Deviations for Demographic and Disease Characteristics

Variable	Range	Usual care (<i>n</i> = 64)	SI group (<i>n</i> = 54)	Overall Mean (<i>N</i> = 118)	UC vs. SI (<i>t</i> value)
Age	23-82	60.8 (13.7)	59.0 (14.1)	60.0 (13.8)	.66
Education	<8-16+	12.9 (2.0)	12.7 (2.3)	12.8 (2.1)	.49
Months since first diagnosed	1-204	32.3 (32.1)	44.6 (47.0)	37.9 (39.9)	-1.69
Months seeing oncologist	1-144	21.0 (23.5)	22.4 (25.3)	21.6 (24.2)	-.30
Number of visits to oncologist	2-100	19.3 (18.9)	16.4 (18.2)	18.0 (18.5)	.87

SI = Spiritual Intervention; UC = Usual Care

Acceptability of the Intervention

A primary question was how the OASIS inquiry would be experienced by the patients and physicians. Patients generally responded positively to the experience both immediately and 3 weeks later (see Table 2). Approximately three-fourths of patients were at least quite comfortable with it, and over half said it was quite useful and would influence how they would cope with their cancer. Patients receiving the spirituality intervention also reported increased satisfaction with their care on the PCAS (see Table 4), rating their physician significantly higher on such characteristics as patience, warmth, respect, and concern, immediately after the visit and 3 weeks later, and on improved communication, such as thoroughness of questions, advice about care, and physician attentiveness immediately after. More religiously observant patients, as indicated on the DUREL, reported more satisfaction with the intervention at both the immediate ($r = .42$, $p < .01$) and the 3-week followup ($r = .34$, $p < .05$).

Descriptively, the physicians rated themselves as “quite” or “very” comfortable during the inquiry in 85% of the cases; they rated 48 of the 54 patients (89%) as appearing “quite” or “very” comfortable during the office visit, matching 69.2% of patient ratings within one category; they were twice as likely to underestimate usefulness (25%) as overestimate it (11.5%). They estimated the inquiry lasting

Table 4. Effect of Intervention on Relationship with Physician

Outcome measure	Group	Time 1: Baseline		Time 2: Immediate follow-up		Time 3: 3-Week follow-up		Time 1 ^a vs. Time 2	Time 1 ^a vs. Time 3
		Mean	SD	Mean	SD	Mean	SD	F	F
PCAS Interpersonal treatment	UC	27.3	3.2	27.6	3.0	27.2	3.2		
	SI	26.6	3.8	27.9	3.1	27.6	2.9	6.59*	4.79*
PCAS Communication	UC	32.2	4.0	32.6	3.8	32.2	4.0		
	SI	31.5	4.5	33.0	3.4	32.6	3.9	4.60*	3.13 ⁺

Note: UC = Usual Care; SI = Spirituality Intervention. PCAS = Primary Care Assessment Survey

^a2 × 2 ANOVA.

⁺ $p < .10$. * $p < .05$.

6.0 minutes on average, and the overall length of visit at 14.8 mins for the intervention group and 13.1 mins for the usual care group ($t = -2.12, p < .05$).

Effects of Intervention on Well Being

Immediately after the intervention, the OASIS group rated their mood, as indicated on the BSI Depression Scale, as significantly improved (from 4.54 to 2.52) compared to the usual care group (from 3.89 to 3.11) ($F(1, 116) = 7.91, p < .01$), suggesting that patients were not distressed by the inquiry. At the 3-week followup (see Table 5), BSI-D scores continued to improve ($F(1, 116) = 7.57, p < .01$), and the intervention group also exhibited significantly more improvement on the total FACT-G, primarily from changes on Social/Family Well-Being and the Functional Well-Being subscales.

Regression analyses were conducted on the Time 3 BSI-D and the FACT-G QOL scores to control for other possible contributors of variance. After controlling for baseline levels of the FACT-G, FACIT-Sp, perception of cancer status (calculated both ways noted above) and changes in patient satisfaction (the PCAS), the impact of intervention remained highly significant for depressed mood ($\beta = -.186, p < .01$) (see Table 6) and total FACT-G ($\beta = .164, p < .01$) (see Table 7). After controlling for these variables, the impact of intervention on the Functional Well-Being Subscale reached significance ($\beta = .127, p < .05$) (see Table 8), but the impact on Social/Family Well-Being did not. Additional analyses on moderator effects, as recommended by Aiken and West [29], suggested that the treatment effect on Functional Well-being was particularly evident for those lower in spiritual well-being at baseline (FACIT-Sp < 1 SD below avg: $\beta = .293, p < .001$; FACIT-Sp > 1 SD above avg: $\beta = -.02, ns$).

Table 5. Effect of Intervention on Depression, Quality of Life, Spiritual Well-Being, and Religiosity (DUREL)

Outcome measure	Group	Baseline (<i>N</i> = 118)		3-Week follow-up (<i>N</i> = 111)		Baseline ^a vs. Follow-up
		Mean	<i>SD</i>	Mean	<i>SD</i>	<i>F</i>
BSI Depression	UC	3.89	4.5	3.10	4.1	7.57**
	SI	4.54	5.1	1.80	2.9	
Total FACT-G QOL	UC	81.8	16.7	85.4	14.9	4.04*
	SI	80.7	14.9	89.8	12.3	
Physical WB	UC	21.0	6.1	22.5	4.8	.49
	SI	21.4	5.8	24.1	4.7	
Functional WB	UC	18.9	6.4	19.2	6.4	2.91 ⁺
	SI	19.4	5.5	21.3	4.8	
Soc./Family WB	UC	22.6	4.7	23.4	3.5	3.77 ⁺
	SI	21.2	4.4	23.4	3.7	
Emotional WB	UC	19.0	4.1	20.0	3.2	1.75
	SI	18.9	4.4	21.1	2.8	
FACIT-Sp (Spiritual Well-Being)	UC	38.6	8.7	40.4	6.4	.10
	SI	38.5	8.4	40.9	7.6	
DUREL	UC	21.3	4.9	21.4	5.3	.02
	SI	21.1	5.0	21.6	4.5	

Note: UC = Usual Care; SI = Spirituality Intervention; BSI = Brief Symptom Inventory; QOL = Quality of Life; WB = Well Being; DUREL = Duke University Religion Index.

Total FACT-G: Sum of Physical, Functional, Social/Family and Emotional Well-Being Scales.

^a2 × 2 ANOVA.

⁺*p* < .10. **p* < .05. ***p* < .01.

DISCUSSION

This study addresses the quandary of whether there is an appropriate and effective way for oncologists to explore the issue of spiritual or religious concerns with their patients. First, the results suggest that using a brief, patient-centered approach is acceptable to the majority of patients and relatively comfortable for physicians. Furthermore, addressing these issues may promote a greater sense of

Table 6. Regression Analysis on Depression at Followup
Dependent Variable: Depression ($N = 109$)

Variable	B	SE B	95% Confidence Intervals	β	t
Baseline Depression	.616	.071	.474 to .757	.769	8.62***
Baseline FACT-G	.018	.024	-.029 to .065	.076	—
Baseline FACIT-Sp	-.005	.035	-.074 to .065	-.011	—
Cancer Status ^a	-.198	.501	-1.191 to .795	-.027	—
Change in PCAS	-.057	.043	-.142 to .027	-.092	—
Intervention Group	-1.350	.494	-2.330 to -.369	-.186	2.73**

Total Adjusted $R^2 = 0.52$. PCAS = Primary Care Assessment Survey, β = Beta, SE = Standard Error.

^aRemission vs. Active Disease, Relapse and "Don't Know" categories.

** $p < .01$. *** $p < .001$.

Table 7. Regression Analysis on Total FACT-G at Followup
Dependent Variable: Total FACT-G ($N = 107$)

Variable	B	SE B	95% Confidence Intervals	β	t
Baseline FACT-G	.491	.077	.338 to .645	.56	6.35***
Baseline Depression	-.768	.235	-1.123 to -.302	-.26	3.27***
Baseline FACIT-Sp	.078	.115	-.150 to .305	.05	—
Cancer Status ^a	-.122	1.65	-3.400 to 3.156	-.01	—
Change in PCAS	.063	.139	-.213 to .338	.028	—
Intervention Group	4.396	1.620	1.181 to 7.611	.164	2.71**

Total Adjusted $R^2 = 0.63$. PCAS = Primary Care Assessment Survey, β = Beta, SE = Standard Error.

^aRemission vs. Active Disease, Relapse and "Don't Know" categories.

** $p < .01$. *** $p < .001$.

Table 8. Regression Analysis on the Functional Well-Being Subscale at Followup
Dependent Variable: Functional Well-Being ($N = 110$)

Variable	B	SE B	95% Confidence Intervals	β	t
Baseline Functional WB	.618	.079	.462 to .774	.62	7.85***
Baseline Depression	-.181	.092	-.363 to .002	-.14	—
Baseline FACIT-Sp	.098	.048	.003 to .193	.143	2.05*
Cancer Status	.046	.66	-1.264 to 1.355	.004	—
Change in PCAS	.050	.057	-.064 to .164	.050	—
Intervention Group	1.483	.668	.158 to 2.807	.127	2.22*

Total Adjusted $R^2 = 0.65$. WB = Well Being; PCAS = Primary Care Assessment Survey, β = Beta, SE = Standard Error.

* $p < .05$. *** $p < .001$.

appreciation for the physician and increased satisfaction with care. Even more provocative is that improvements in quality of life were observed in patients who received the spirituality inquiry compared to patients who received usual care. Whether it is appropriate for physicians to explore the spiritual or religious concerns of patients remains a matter of legitimate debate [11, 12], and we support the importance of avoiding pitfalls such as going beyond a physician's expertise, imposing beliefs on the patient, or trying to provide inappropriate reassurance or answers to questions of faith [12]. However, we believe this study supports the value of such discussions if conducted within a sensitive, patient-centered approach, as is being increasingly called for by formal guidelines for patient care [30] and in resources intended to frame the issue of spiritual support broadly and from a non-sectarian perspective [12, 31, 32].

There are multiple reasons physicians give regarding their reluctance to engage in discussions of a religious or spiritual nature with patients, including time concerns, role concerns, lack of skill, causing distress to the patient, and lack of congruence between the physician's and patient's beliefs, as we recently confirmed in a separate study [33]. The OASIS model addresses these concerns. First, the time of the office visit was not meaningfully prolonged by exploring these issues. Audiotaping the interactions, which was beyond the resources of the current study, would be desirable in future research in order to clarify how the inquiry was actually integrated into the visit. Second, far from being distressed,

patients appeared to appreciate the inquiry into their use of spiritual or religious resources. Although less religiously observant individuals were less satisfied with the inquiry, they did not express distress; however, distress might occur in a larger or more ethnically diverse sample than represented here. Third, the inquiry led to sustained improvement in patient perceptions of their physician as more patient, warm, caring, and respectful, which was particularly encouraging given that these were already well-established patient-physician relationships. A final concern is whether such an inquiry might be experienced as particularly inappropriate if a patient and physician differ in faith background. In that two of the participating oncologists were from different cultural and religious backgrounds (a Hindu and a Sikh) from most of their patients, this study speaks anecdotally to this issue in that we could discern no patterns of response specific to the patients of these two oncologists. A larger sample of both physicians and patients would allow further exploration of individual differences in physician impact. Therefore, we conclude that the arguments that explorations of religious or spiritual issues will engender discomfort or hostility, decrease a patient's satisfaction with medical care, or consume an inordinate amount of time cannot be supported based upon this study.

Our data suggests that this brief intervention may positively impact the well-being of the patients, at least in the short term. The magnitude of improvement on the quality of life measure (9.1 points on the total FACT-G vs. 3.6 in the control group (an effect size of .25)) reaches a level that has been accepted as clinically meaningful in both behavioral and drug therapy trials [34]; for example, a change in the FACT-G of 5.5 points in patients who responded to erythropoietin, a common supportive care intervention in oncology, has been interpreted as providing evidence of meaningful benefit [35]. Depression ratings also improved over the three week period; although this was not a clinically depressed population, the BSI-D serves as a general indicator of mood. Others [19] have shown that the report of increased communication with physicians about sensitive matters related to serious illness is associated with less worry about mortality.

These results are clearly preliminary and there are several limitations to this study. Because no changes were observed on our particular measures of spiritual well-being or on religiousness, it is not yet apparent what mechanisms may be mediating the effect of this inquiry on quality of life. Possibly the potent factor was the increased support and empathy perceived by the patients; spending six minutes in an open-ended patient-centered exploration of any issue of concern (such as diet or family issues) might produce comparable improvements in outcome measures via an improved sense of relationship with the physician. However, effects on QOL remained significant even after controlling for improvement in physician satisfaction. Future clinical trials with the inquiry could, however, include controls to assess this aspect of response more fully.

It seems more likely that the effect of the inquiry on quality of life was dependent on the content of the inquiry, i.e., addressing spiritual or religious

concerns of the patient, yet in ways that are difficult to assess. Spiritual/religious involvement is increasingly being recognized as a multi-dimensional process, of which the FACIT-Sp assesses only one aspect [36]. Future research utilizing more extensive assessment of spiritual and religious involvement may illuminate other mediating processes. A patient may not improve levels of inner meaning or peace on the basis of a few minutes of exploration of concerns, but having the value of spiritual resources acknowledged by their physician may encourage or empower them to draw more fully on such resources to address other issues. Consistent with this interpretation is that improvement in QOL was more substantial for those lower on the spiritual well-being scale. Such individuals may particularly benefit from being encouraged to use even limited spiritual resources more effectively; evidence [7] suggests that individuals in spiritual distress may be at higher risk for premature mortality and may therefore particularly benefit from exploring spiritual concerns and from referral to chaplains or other appropriate assistance.

Another limitation of the study is the lack of true randomization; nevertheless, groups did not differ significantly at baseline on any variables, and other aspects of the protocol, such as physicians or staff being uninvolved in patient assignment, and the very high recruitment rate of 95%, makes other systematic sources of bias unlikely. Another limitation is lack of blinding to condition. While it would be impossible to blind physicians because they delivered the intervention themselves to patients with whom they were familiar, it would be preferable in future research to have the followup QOL assessments be conducted by someone blind to condition.

In summary, raising the issue of spiritual concerns with patients can be done sensitively and effectively within the constraints of usual practice. Furthermore, doing so improves not only the physician-patient relationship, but appears beneficial to patients, particularly for those who may be experiencing lower levels of spiritual well-being at the time.

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REFERENCES

1. Ford S, Fallowfield L, Lewis S. Doctor-patient interactions in oncology. *Social Science and Medicine* 1996;42:1511-1519.
2. Miller BE, Pittman B, Strong C. Gynecologic cancer patients' psychosocial needs and their views on the physician's role in meeting those needs. *International Journal of Gynecology and Cancer* 2003;13:111-119.

3. Kaczorowski J. Spiritual well-being and anxiety in adults diagnosed with cancer. *Hospice Journal* 1989;5:105-116.
4. McIlmurray MB, Francis B, Harman JC, Morris SM, Soothill K, Thomas C. Psychosocial needs in cancer patients related to religious belief. *Palliative Medicine* 2003;17:49-54.
5. McClain CS, Rosenfeld B, Breitbart W. Effect of spiritual well-being on end-of-life despair in terminally-ill cancer patients. *Lancet* 2003;361:1603-1607.
6. McCullough M, Hoyt W, Larson D, Koenig H, Thoresen C. Religious involvement and mortality: A meta-analytic review. *Health and Psychology* 2000;19:11-222.
7. Pargament K, Koenig HG, Tarakeshwar N, Hahn J. Religious struggle as a predictor of mortality among medically ill elderly patients. *Archives of Internal Medicine* 2001;161:1881-1885.
8. Silvestri GA, Knittig S, Zoller JS, Nietert PJ. Importance of faith on medical decisions regarding cancer care. *Journal of Clinical Oncology* 2003;21:1379-1382.
9. Brady M, Peterman A, Fitchett G, Mo M, Cella D. A case for including spirituality in quality of life measurement in oncology. *Psycho-Oncology* 1999;8:417-428.
10. Peterman AH, Fitchett G, Brady MJ, Hernandez L, Cella D. Measuring spiritual well-being in people with cancer: The functional assessment of chronic illness therapy-spiritual well-being scale (FACIT-SP). *Annals of Behavioral Medicine* 2002;24:49-58.
11. Sloan RP, Bagiella E, VanderCreek L, et al. Should physicians prescribe religious activities? *New England Journal of Medicine* 2000;432:1913-1916.
12. Post SG, Puchalski CM, Larson DB. Physicians and patients spirituality: Professional boundaries, competency, and ethics. *Annals of Internal Medicine* 2000;132:578-583.
13. Jenkins R, Pargament K. Religion and spirituality as resources for coping with cancer. *Journal of Psychosocial Oncology* 1995;3:51-74.
14. Turns M, Kristeller J. *Psychosocial concerns in cancer care: Patient-physician perspectives*. Paper presented at the Society of Behavioral Medicine, Seattle, WA, 2001.
15. Kristeller J, Zumbrun C, Schilling R. 'I would if I could': How oncologists and oncology nurses address spiritual distress in cancer patients. *Psycho-Oncology* 1999;8:451-458.
16. Fisch MJ, Titzer ML, Kristeller JL, Shen J, Loehrer PJ, Jung SH, Passik SD, Einhorn LH. Assessment of quality of life in outpatients with advanced cancer: The accuracy of clinician estimations and the relevance of spiritual well-being—A Hoosier Oncology Group Study. *Journal of Clinical Oncology* 2003;21:2754-2759.
17. Chibnall JT, Brooks CA. Religion in the clinic: The role of physician beliefs. *Southern Medical Journal* 2001;94:374-379.
18. Sloan RP, Bagiella E. Claims about religious involvement and health outcomes. *Annals of Behavioral Medicine* 2002;24:14-21.
19. Chibnall JT, Videen SD, Duckro PN, Miller DK. Psychosocial-spiritual correlates of death distress in patients with life-threatening medical conditions. *Palliative Medicine* 2002;16:331-338.

20. Ockene J, Kristeller J, Goldberg R, Amick T, Pekow P, Hosmer D, Quirk M, Kalan K. Increasing the efficacy of physician-delivered smoking intervention: A randomized clinical trial. *Journal of General Internal Medicine* 1991;6:1-8.
21. Ockene JK, Adams A, Hurley TG, Wheeler EV, Herbert JR. Brief physician and nurse practitioner delivered counseling for high risk drinking: Does it work? *Archives of Internal Medicine* 1999;159:2198-2205.
22. Bertakis K, Roter D, Putnam S. The relationship of physician medical interview style to patient satisfaction. *Journal of Family Practice* 1991;32:175-181.
23. Ockene J, Quirk M, Goldberg R, Kristeller J, Donnelly G, Kalan K, Gould B, Greene H, Harrison-Atlas R, Pease J, Pickens S, Williams J. A residents' training program for the development of smoking intervention skills. *Archives of Internal Medicine* 1988; 148:1039-1045.
24. Cella D, Tulskey D, Gray G, et al. The Functional Assessment of Cancer Therapy Scale: Development and validation of the general measure. *Journal of Clinical Oncology* 1993;1:570-579.
25. Derogatis L. *Brief Symptom Inventory*. Clinical Psychometric Research, Baltimore, 1975.
26. Koenig H, Parkerson G, Meador K. Religion index for psychiatric research. *American Journal of Psychology* 1997;154:885-886.
27. Safran D, Kosinski M, Tarlov A, Rogers W, Taira D, Lieberman N, Ware J. The Primary Care Assessment Survey: Test of data quality and measurement performance. *Medical Care* 1998;36:711-723.
28. Cohen J. *Statistical power analysis for the behavioral sciences*. Hillsdale, NJ: Lawrence Erlbaum Associates; 1988.
29. Aiken LS, West SG. *Multiple regression: Testing and interpreting interactions*. Thousand Oaks, CA: Sage Publications, 1991.
30. Gordon T, Mitchell D. A competency model for the assessment and delivery of spiritual care. *Palliative Medicine* 2004;18:646-651.
31. Puchalski C, Romer AL. Taking a spiritual history allows clinicians to understand patients more fully. *Journal of Palliative Medicine* 2000;3:129-137.
32. Koenig H. *Spirituality in patient care*. Templeton Foundation Press, 2002.
33. Kristeller J, Johns S, Cripe L, Sheets V. The PIAS (Provider Issues with Addressing Spirituality): Initial validity of a scale to assess barriers to addressing spiritual issues. Poster presented at Spirituality and Healing in Medicine, Salt Lake City, UT, 2002.
34. Cella D, Tross S. Psychological adjustment to survival from Hodgkin's disease. *Journal of Consulting Clinical Psychiatry* 1986;54:616-622.
35. Quirt I, Robeson C, Lau CY, Kovacs M, Burdette-Radoux S, Dolan S, Tang SC, McKenzie M, Couture F. Canadian Eprex Oncology Study Group. Epoetin alfa therapy increases hemoglobin levels and improves quality of life in patients with cancer-related anemia who are not receiving chemotherapy and patients with anemia who are receiving chemotherapy. *Journal of Clinical Oncology* 2001; 19(21):4126-4134.

36. Kristeller JL, Johnson TJ, Sheets V. Dimensions of religiousness and spirituality in college students. Submitted for publication. Paper presented as: Kristeller, J., Johnson, T., Sheets, V. (3/21/03). Structural Validity of Spiritual and Religious Dimensions in Relation to Alcohol Use. At the Society of Behavioral Medicine Annual Meetings, Salt Lake City.

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