Palliative and Supportive Care

cambridge.org/pax

The religious/spiritual beliefs and needs of cancer survivors who underwent cancer-directed surgery

Elizabeth Palmer Kelly, PH.D.[1], Anghela Z. Paredes, M.D., M.S.[2], Stephanie DiFilippo, M.A.[1], Madison Hyer, M.S.[2], Diamantis I. Tsilimigras, M.D.[2], Daniel Rice, B.S.[3], Junu Bae, PH.D.[4] and Timothy M. Pawlik, M.D., M.P.H., M.T.S., PH.D.[2]

[1]Comprehensive Cancer Center, The Ohio State University, Columbus, OH; [2]Department of Surgery, The Ohio State Wexner Medical Center, Columbus, OH; [3]Lake Erie College of Osteopathic Medicine, Greensburg, PA and [4]The Ohio State University College of Medicine, The Ohio State University, Columbus, OH

Original Article

Cite this article: Palmer Kelly E, Paredes AZ, DiFilippo S, Hyer M, Tsilimigras DI, Rice D, Bae J, Pawlik TM (2021). The religious/spiritual beliefs and needs of cancer survivors who underwent cancer-directed surgery. *Palliative and Supportive Care* **19**, 175–181. https://doi.org/10.1017/S1478951520000772

Received: 11 May 2020
Revised: 27 July 2020
Accepted: 2 August 2020

Key words:
Cancer; Patient-centered care; Religion and spirituality; Spiritual care

Author for correspondence:
Timothy M. Pawlik, Department of Surgery, The Ohio State University Wexner Medical Center, 395 W. 12th Ave., Suite 670, Columbus, OH, USA. E-mail: Tim.Pawlik@osumc.edu

Abstract

Objective. We sought to characterize patients' preferences for the role of religious and spiritual (R&S) beliefs and practices during cancer treatment and describe the R&S resources desired by patients during the perioperative period.

Method. A cross-sectional survey was administered to individuals who underwent cancer-directed surgery. Data on demographics and R&S beliefs/preferences were collected and analyzed.

Results. Among 236 participants, average age was 58.8 (SD = 12.10) years; the majority were female (76.2%), white (94.1%), had a significant other or spouse (60.2%), and were breast cancer survivors (43.6%). Overall, more than one-half (55.9%) of individuals identified themselves as being religious, while others identified as only spiritual (27.9%) or neither (16.2%). Patients who identified as religious wanted R&S integrated into their care more often than patients who were only spiritual or neither ($p < 0.001$). Nearly half of participants (49.6%) wanted R&S resources when admitted to the hospital including the opportunity to speak with an R&S leader (e.g., rabbi; 72.1%), R&S texts (64.0%), and journaling materials (54.1%). Irrespective of R&S identification, 68.0% of patients did not want their physician to engage with them about R&S topics.

Significance of results. Access to R&S resources is important during cancer treatment, and incorporating R&S into cancer care may be especially important to patients that identify as religious. R&S needs should be addressed as part of the cancer care plan.

Introduction

For the 15.5 million people diagnosed annually with cancer, the decision burden regarding care and treatment can be associated with profound biological, psychological, social, and spiritual effects (Pecanac et al., 2014; Kruser et al., 2015). Leveraging patient supportive resources, including religious and spiritual (R&S) beliefs and practices, to incorporate into the treatment planning process may help to facilitate decision-making that is in line with patient preferences and values (Balogh et al., 2011). To this point, the American Society of Clinical Oncology has endorsed assessing and incorporating R&S needs into the oncological care of patients (Puchalski et al., 2019). R&S can serve as a valuable inter- and intrapersonal resource for cancer patients and their family members, including providing hope, finding meaning in the cancer experience, improving cancer-related psychological adjustment, as well as enhancing quality of life (Koenig, 2012; Peteet and Balboni, 2013; Cohen et al., 2017). Additionally, R&S can influence treatment-related decisions, including engagement in complementary therapies, enrollment in clinical trials, transition to palliative or hospice care, and the decision to undergo cancer-directed surgery (Koenig, 2012; Peteet and Balboni, 2013; Roland et al., 2013). Unfortunately, despite recommendations and data to support the incorporation of R&S into the clinical care of cancer patients, R&S beliefs and practices of patients are often excluded or overlooked in the healthcare setting (Koenig, 2012; Puchalski, 2012).

Surgery often plays a key role in the treatment of many patients with cancer. Perhaps more than other types of therapy, cancer-related surgery can be particularly stressful on patients. In particular, surgical therapy tends to be "higher stakes" relative to the risks (e.g., perioperative complications and mortality), as well as the benefits (e.g., "cure") (Kim et al., 2015; Ejaz et al., 2016; Winner et al., 2016; Palmer Kelly et al., 2019*b*). To date, however, the role and importance of R&S among patients during the perioperative period has not been defined. As such, the objective of the current study was to characterize patient preferences around the role of R&S during cancer treatment with a specific focus on cancer-directed surgery. Additionally,

© The Author(s), 2020. Published by Cambridge University Press

CAMBRIDGE UNIVERSITY PRESS

we sought to characterize which R&S resources patients most often seek during the perioperative period.

Methods

Survey instrument design and administration

A cross-sectional descriptive study using survey methodology to assess R&S practice using an investigator-created survey was employed. For the purposes of the current study, religion was defined as a belief and trust in God, a higher power, and/or a set of religious beliefs and/or practices. Spirituality was defined as the way people seek and express meaning and purpose in their lives, and the way people experience connectedness to the moment, to self, to others, to nature, and to the sacred/holy/divine (Puchalski, 2001, 2012; Koenig and Büssing, 2010). The survey was reviewed by members of the Pastoral Care Department at the Ohio State University Comprehensive Cancer Center (OSUCCC-James), and changes were made based on their feedback.

Participants were recruited during a follow-up visit with their physician at the outpatient clinics at the OSUCCC-James or electronically through MyChart (the patient's electronic medical record) and ResearchMatch©, an online registry that matches potential participants with current research studies (Harris et al., 2012). Eligible patients were ≥18 years old, self-identified as English-proficient, diagnosed with a cancer for at least 4 months, and underwent a surgical procedure related to their cancer. The study was approved by the Ohio State University Wexner Medical Center Institutional Review Board (protocol # 2018C0108).

Variables and outcomes

Demographic variables collected included age, gender, relationship status, and level of education. Patient reported cancer-related information included type of cancer, type of treatment(s), and year of cancer diagnosis. R&Svariables were also collected including participant membership in an organized practice (e.g., Jewish, Catholic, and Agnostics), behaviors associated with R&S practice (e.g., frequency of prayer/meditation), and the importance of R&S. Patient R&S beliefs were organized into three broad categories: religious (including participants that indicated they were both religious and spiritual, herein referred to as "religious"), spiritual, but not religious (herein referred to as "spiritual"), and neither religious nor spiritual (herein referred to as "neither"). Patient preferences on R&S were assessed with investigator-derived questions. The survey included potential screening questions (e.g., would you like your faith to be part of your cancer treatment?). If the participant responded "yes" to the screening questions regarding the desire for R&S resources during an inpatient stay, branching logic revealed 3–5 additional Likert-style questions related to desired resources for patients across five-domains: (1) written (e.g., texts), (2) audio/visual (e.g., music), (3) physical (e.g., prayer rugs), (4) communal (e.g., group worship), and (5) relational (e.g., speak with a faith leader).

Data analysis

A cross-sectional descriptive design was used to explore the quantitative survey items. Descriptive statistics were reported as frequency (relative frequency: %) and mean (standard deviation: SD, Range) for categorical and continuous data, respectively. Pearson's chi-squared test was used to assess the association between R&S identity and demographics with participant desire to incorporate R&S beliefs and needs in cancer care. For analyses of categorical data, Cramer's V (ϕ) was also utilized to assess the strength of association between variables ($\phi < 0.20$ = weak association, ϕ range: 0.21–0.60 = moderate/relatively strong, and ϕ range: 0.61–1.00 = strong/very strong) (Akoglu, 2018). All statistical analyses were performed using SPSS v25. All tests were two-sided, and statistical significance was assessed at $\alpha < 0.05$.

Results

Among 383 potential participants who indicated interest in participating in the survey, 65 patients (16.9%) were recruited from clinics or MyChart at the OSUCCC-James, whereas 318 (83.0%) patients were recruited through ResearchMatch©. Among individuals who expressed interest and opened the survey, 253 (66.1%) completed the survey. Seventeen participants were excluded from subsequent analyses ($n = 3$, did not agree to participate on the consent form; $n = 9$, did not complete any survey questions after consenting; $n = 3$, did not designate a cancer diagnosis; $n = 2$, did not confirm they underwent a surgical procedure).

Demographics

Among the 236 participants included in analytic cohort, average patient age was 58.8 years (SD = 12.1). The majority of individuals were female ($n = 179$, 75.8%), white/Caucasian ($n = 222$, 94.1%), had a significant other/spouse ($n = 142$, 60.2%), and had a bachelors or post-graduate degree ($n = 171$, 72.5%). The most common cancer diagnosis was breast cancer ($n = 103$, 43.2%); other diagnoses included male reproductive ($n = 21$, 8.9%), skin ($n = 20$, 8.5%) and head/neck ($n = 18$, 7.6%) and gastrointestinal ($n = 20$, 8.5%) cancer. Of note, the majority of respondents ($n = 185$, 78.4%) reported being cancer free at the time of survey completion; 14.0% ($n = 33$) of respondents reported having cancer at the time of the survey, while 7.2% ($n = 17$) reported being unsure. The majority of patients had a previous inpatient surgical procedure ($n = 155$, 65.7%), while a smaller number of patients had outpatient surgery ($n = 81$, 34.3%). Three-quarters of patients had only one surgical procedure ($n = 177$, 75.0%); a smaller number of patients had two ($n = 41$, 17.4%) or more ($n = 18$, 7.6%) procedures related to their cancer. Indications for surgical procedures included curative-intent resection ($n = 198$, 62.1%), diagnostic ($n = 40$, 12.5%), reconstructive/restorative ($n = 36$, 11.3%), and preventive/prophylactic surgery ($n = 29$, 9.1%).

With regard to R&S beliefs and practices, more than one-half ($n = 128$, 55.9%) of participants identified as being religious. A smaller subset identified as being spiritual ($n = 64$, 27.9%) or neither ($n = 37$, 16.2%) (Table 1). Approximately one-half ($n = 117$, 52.2%) of participants indicated that R&S was "very important" in their life, while 22.3% ($n = 50$) noted that R&S was "somewhat important;" 25.4% ($n = 57$) indicated R&S was "not too or not at all important." The largest religious affiliation represented in the study cohort was Protestant ($n = 43$, 18.2%), followed by Catholic ($n = 39$, 16.5%), and nondenominational Christian ($n = 31$, 13.1%).

Role of R&S during cancer care

Many patients reported that R&S practices were a routine part of their life ($n = 158/230$, 68.7%) and that R&S played an important part of their cancer care ($n = 164/230$, 71.3%) ($n = 6$ missing

https://doi.org/10.1017/S1478951520000772 Published online by Cambridge University Press

Table 1. Demographic characteristics of the participants

	n	*M* (SD)	Range
Age	236	58.8 (12.10)	21.0–89.0
	n	Valid %	
Gender	235		
Male	56	23.8	
Female	179	76.2	
Race	236		
White	222	94.1	
Non-White	14	5.9	
Cancer type	236		
Breast	103	43.6	
Male reproductive	21	8.9	
Skin	20	8.5	
Head/neck	18	7.6	
GI	20	8.5	
Other	54	22.9	
Relationship status	236		
Partnered	142	60.2	
Non-partnered	94	39.8	
Education	236		
<College degree	65	27.5	
≥College degree	171	72.5	
Surgery type[a]	236		
Curative	198	62.1	
Diagnostic	40	12.5	
Reconstructive/restorative	36	11.3	
Preventative/prophylactic	29	9.1	
Palliative/other	16	5.1	
R&S identity	229		
Religious (or religious & spiritual)	128	55.9	
Spiritual, not religious	64	27.9	
Neither religious nor spiritual	37	16.2	

R&S, religious and spiritual.
[a]Multiple response question.

response). Participants who identified as being religious were more likely than participants who identified as spiritual or neither to report R&S being a routine part of their life (94.4% vs. 57.8% vs. 5.4%, respectively; $p < 0.001$, $\phi = 0.71$) (Table 2). In addition, participants who identified as being religious were overwhelming more likely to report wanting R&S to play a role in their cancer care (94.4% vs. 10.8%; $p < 0.001$, $\phi = 0.67$); religious individuals were also vastly more likely to report wanting R&S to be a part of their cancer treatment vs. individuals who identified as neither religious or spiritual (87.9% vs. 2.7%; $p < 0.001$, $\phi = 0.65$) (Figure 1). Specifically, individuals who reported that R&S was a routine part of their life were much more to identify as being religious vs. participants who identified as spiritual (75.2% vs. 23.6%). Of note, R&S preferences did not vary relative to sex, age, education level, relationship status, or cancer type (all $p > 0.05$). Patients with less than a college degree were more likely to report wanting R&S to be a part of their cancer care compared with patients who had a college degree or higher (80.6% vs. 67.9%, respectively; $p = 0.07$).

Desired R&S resources in the perioperative period

In assessing the analytic cohort, 124 individuals (55.1%) indicated a desire to seek R&S resources/support from individuals and communities outside the hospital, while 111 (49.6%) individuals reported that they wanted easier access to in-hospital R&S resources when admitted. Preferences for R&S resources varied by R&S identity. Specifically, 96 (79.3%) individuals who identified as religious indicated a desire to access R&S resources outside the hospital vs. 28 (44.4%) for individuals who identified as spiritual; no participant who identified neither reported wanting outpatient R&S resources ($p < 0.001$, $\phi = 0.59$). Two-thirds ($n = 81$, 66.9%) of participants who identified as religious reported a desire to have greater access to R&S resources in the in-hospital setting compared with 42.9% ($n = 27$) who self-identified as spiritual, but not religious; only 2.8% ($n = 1$) individuals who self-reported as neither religious nor spiritual had any desire to have access to inpatient R&S resources ($p < 0.001$, $\phi = 0.46$). Age was also associated with the likelihood of patients wanting R&S resources. Specifically, individuals ≥50 years of age more often reported wanting access to R&S resources compared with younger patients (58.3% vs. 41.2%, respectively; $p = 0.03$; $\phi = 0.15$) (Table 3).

Among patients who desired R&S resources during their hospital stay, the ability to speak with an R&S leader from their faith practice (e.g., rabbi and priest) was most frequently indicated (72.1%). Other desired resources that individuals commonly identified included: access to R&S reading materials (e.g., holy texts) (64.0%), access to worship services for their R&S practice (55.9%), the opportunity to speak to a hospital chaplain (55.0%), and journaling materials (54.1%). Other physical R&S resources such as specific R&S food items (e.g., Kosher foods) (19.8%) and material objects needed to engage in R&S practices (e.g., prayer rug and rosary; 28.8%) were not as commonly identified (Figure 2). Of note, only 39 (35.1%) participants reported wanting an opportunity to talk directly about R&S with the healthcare team. While almost two-thirds ($n = 145/229$, 63.3%) of patients reported wanting R&S to be part of their cancer treatment in some way, the majority ($n = 153/225$, 68.0%) did not want their medical doctor to be the person engaging with them about R&S during treatment.

Discussion

The Institute of Medicine describes patient-centered care as "providing care that is respectful of and responsive to individual patient preferences, needs, and values, and ensuring that patient values guide all clinical decisions" (Institute of Medicine, 2001). For many patients, this undoubtedly includes R&S beliefs and practices (Palmer Kelly et al., 2019*a*; Merath et al., 2019). This facet of a patient's life is, however, often overlooked despite increased recognition of its importance from organizations such as the American Society of Clinical Oncology (Pargament et al., 2004; Puchalski et al., 2019). The current study was important because we specifically examined R&S identity and R&S preferences using a cross-sectional survey. Of note, roughly 8 in 10 cancer patients self-identified as being religious or spiritual. Perhaps

https://doi.org/10.1017/S1478951520000772 Published online by Cambridge University Press

Table 2. Subgroup analyses for participant preferences on the role of R&S in cancer care (% represents row proportions)

	Are R&S a routine part of your life?		Does R&S play a part in your cancer care?		Would you like R&S to be part of your cancer treatment?	
	Yes, *n* (%)	*p*	Yes, *n* (%)	*p*	Yes, *n* (%)	*p*
R&S identity						
Religious	118 (94.4)	<0.001*	118 (94.4)	<0.001‡	109 (87.9)	<0.001¶
Spiritual	37 (57.8)		39 (60.9)		33 (51.6)	
Neither	2 (5.4)		4 (10.8)		1 (2.7)	
Gender						
Male	34 (64.2)	0.42	38 (71.7)	0.94	34 (64.2)	0.89
Female	124 (70.1)		126 (71.2)		111 (63.1)	
Age						
≤50 years	35 (67.3)	0.90†	33 (63.5)	0.19§	30 (57.7)	0.37#
>50 years	118 (68.2)		126 (72.8)		111 (64.5)	
Education						
<college degree	44 (71.0)	0.65	50 (80.6)	0.07	43 (70.5)	0.18
≥college degree	114 (67.9)		114 (67.9)		102 (60.7)	
Relationship status						
Partnered	97 (70.8)	0.40	101 (73.7)	0.33	43 (63.5)	0.94
Not partnered	61 (65.6)		63 (67.7)		102 (63.0)	
Cancer type						
Breast	78 (75.7)	0.32	78 (75.7)	0.38	64 (62.7)	0.37
Reproductive	22 (61.1)		25 (69.4)		22 (61.1)	
Head & neck	12 (70.6)		10 (58.8)		8 (47.1)	
GI	10 (58.8)		12 (70.6)		12 (70.6)	
Skin	11 (55.5)		11 (55.0)		11 (55.0)	
Other	25 (67.6)		28 (75.7)		28 (75.7)	

GI, Gastrointestinal.
Due to missing data, the following symbols indicate the number of respondents: *157; †153; ‡161; §159; ¶159; #141.

of even more interest was the finding that more than one-half of participants believed R&S played a role in their cancer care and should be incorporated into their treatment plan. While preferences for resources varied by R&S identity, patient demographic factors such as race or education had less impact. Importantly, roughly one-half of patients articulated a desire to be offered R&S resources during their cancer hospitalization. Of particular note, while many patients wanted R&S to be part of their cancer care, the majority of individuals did not want physician engaging in R&S during treatment. Rather, patients who desired R&S resources, largely wanted better access to R&S staff/clergy, as well as R&S materials such as sacred texts and worship materials. Collectively, the data suggest that R&S was important to many cancer patients and access to R&S should be incorporated into care services for cancer patients. Patient R&S preferences seem to be best addressed, however, by members of the multidisciplinary care team and chaplaincy services, rather than medical providers themselves.

Previous studies have attempted to characterize the role of R&S in the cancer continuum (Peteet and Balboni, 2013; Sankhe et al., 2017; Merath et al., 2019). These studies have largely focused on the influence of R&S among patients with chronic diseases or patients undergoing palliative care rather than patients undergoing cancer-directed surgery (Krupski et al., 2006; Bernard et al., 2017; Paredes and Pereira, 2018). For example, among palliative patients, Bernard et al. (2017) noted that spiritual well-being and meaning in life were protective factors against psychological distress at the end of life. Additionally, spirituality has been associated with improved quality of life, and posttraumatic growth among patients with cancer (Krupski et al., 2006; Paredes and Pereira, 2018). In fact, R&S may not only be important as a means of support for the patient but also for caregivers. To this point, Lai et al. (2018) reported that spirituality among caregivers predicted a higher amount of time dedicated to caregiving, as well as protection against emotional distress. In the current study, we noted that over one-half of participants indicated that R&S practices were a routine part of their life, that R&S played a part in their cancer care, and that they would like R&S to be a part of their cancer treatment. Collectively, these data strongly suggest that R&S is an important facet of many cancer patients' coping mechanisms for dealing with their diagnosis and treatment.

The current study sought to characterize R&S preferences (e.g., R&S is a routine part of life, R&S played a part in their cancer care, prefer R&S to be a part of cancer treatment) stratified by

https://doi.org/10.1017/S1478951520000772 Published online by Cambridge University Press

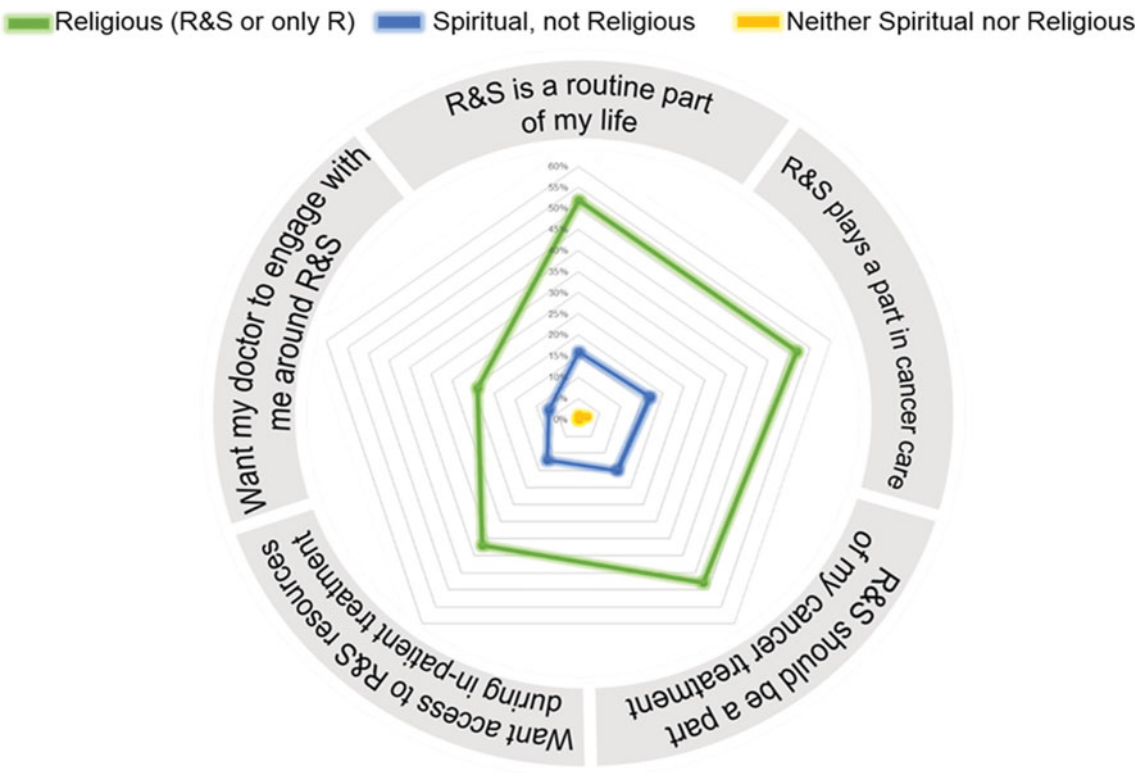

Fig. 1. Comparison of R&S beliefs and preferences stratified by R&S identity.

R&S identity and other demographic characteristics. Williams et al. (2011) evaluated the desire to have religious or spiritual concerns addressed among a cohort of internal medicine patients and noted that 41% of inpatients desired a discussion of R&S concerns while hospitalized. In a separate study involving patients with HIV/AIDS, Cotton et al. (2006) noted that 75% of patients reported that their illness strengthened their faith at least a little; in addition, many patients utilized religious tools as a means to cope with their illness. The current study builds on this previous work in that surgical patients who identified as religious or spiritual — with a high incidence of over 80% — were more likely to want R&S incorporated into their cancer care, including access to R&S resources vs. individuals who identified as neither. Of note, there were no differences in R&S preferences relative to patient demographic factors including sex, age, relationship status, or cancer type. As such, the data would suggest that addressing R&S within the clinical encounter may be important for many different types of patients and not just a specific subgroup.

Another interesting finding was that, while many patients want R&S services and resources available, two-thirds of individuals did not want their medical doctor to engage with them about R&S during treatment. Several authors have reported that R&S topics were infrequently discussed by physicians, and patient preferences on the extent and context in which a physician should engage in R&S discussions were very mixed (Best et al., 2015b, 2016). Rather, patients seemingly prefer to engage with their established R&S communities, including family members and friends, as a means to incorporate R&S in their cancer care (Merath et al., 2019). The integration of family members and R&S community organizations into a patient's cancer care remains challenging. The provision of R&S resources after patients are admitted to the hospital may be more feasible, and nearly one-half of individuals noted a desire for such resources. Specifically, among individuals who identified as religious, a large number indicated that they would like access to R&S resources within the hospital during the perioperative period. Specifically, patients who desired R&S resources during their hospital stay most frequently indicated a desire to speak with an R&S leader, as well as have access to R&S reading materials. To date, R&S needs of cancer survivors have more often focused on external resources or less tangible needs (e.g., meaning-making vs. religious/spiritual texts) (Visser et al., 2010; Best et al., 2015a). Meeting these patient R&S needs may be a means to improve patient satisfaction and quality of life, as increases in unmet spiritual needs have been associated with lower patient satisfaction scores and perception of quality of care (Astrow et al., 2016).

There are several limitations, some inherent to online survey methodology, which should be considered when interpreting the data. Participant recruitment involved a convenience sample, as individuals were asked to participate in the study based on meeting certain inclusion criteria; thus, volunteer bias was possible. Respondent bias was also possible, as participants had to be well enough to participate in the online survey (Reja et al., 2003). Because recruitment largely occurred via online and in-person at the OSUCCC-James, the overrepresentation of participants from Ohio may have limited the generalizability of the results. Additionally, the cohort was relatively homogenous relative to certain demographic factors such as race and gender. In turn, studies to investigate R&S preferences among diverse populations with more under-represented minorities are warranted.

In conclusion, R&S beliefs and needs, including access to R&S resources, were prevalent among many patients undergoing surgical treatment for cancer. The desire for R&D resources was particularly strong among patients who identified with a specific

https://doi.org/10.1017/S1478951520000772 Published online by Cambridge University Press

Table 3. Subgroup analyses for participant desire for R&S resources during cancer treatment (% represents row proportions)

	During inpatient treatment would you…			
	…seek R&S resources outside the hospital?		…like to be offered R&S resources during your stay?	
	Yes, *n* (%)	*p*	Yes, *n* (%)	*p*
R&S identity				
Religious	96 (79.3)	<0.001	81 (66.9)	<0.001
Spiritual	28 (44.4)		27 (42.9)	
Neither	0 (0.0)		1 (2.8)	
Gender				
Male	34 (63.0)	0.18	27 (51.9)	0.70
Female	90 (52.6)		84 (48.8)	
Age				
≤50 years	21 (41.2)	0.03*	22 (43.1)	0.28†
>50 years	98 (58.3)		87 (51.8)	
Education				
<College degree	35 (58.3)	0.56	31 (51.7)	0.70
≥College degree	89 (53.9)		80 (48.8)	
Relationship status				
Partnered	80 (59.7)	0.09	72 (54.1)	0.10
Not partnered	44 (48.4)		39 (42.9)	
Cancer type				
Breast	53 (54.6)	0.48	47 (48.0)	0.34
Reproductive	21 (56.3)		21 (60.0)	
Head & neck	6 (35.3)		6 (35.3)	
GI	10 (58.8)		7 (41.2)	
Skin	10 (50.0)		8 (40.0)	
Other	24 (64.9)		22 (59.5)	

GI, Gastrointestinal.
Due to missing data, the following symbols indicate the number of respondents number of respondents: *119; †109.

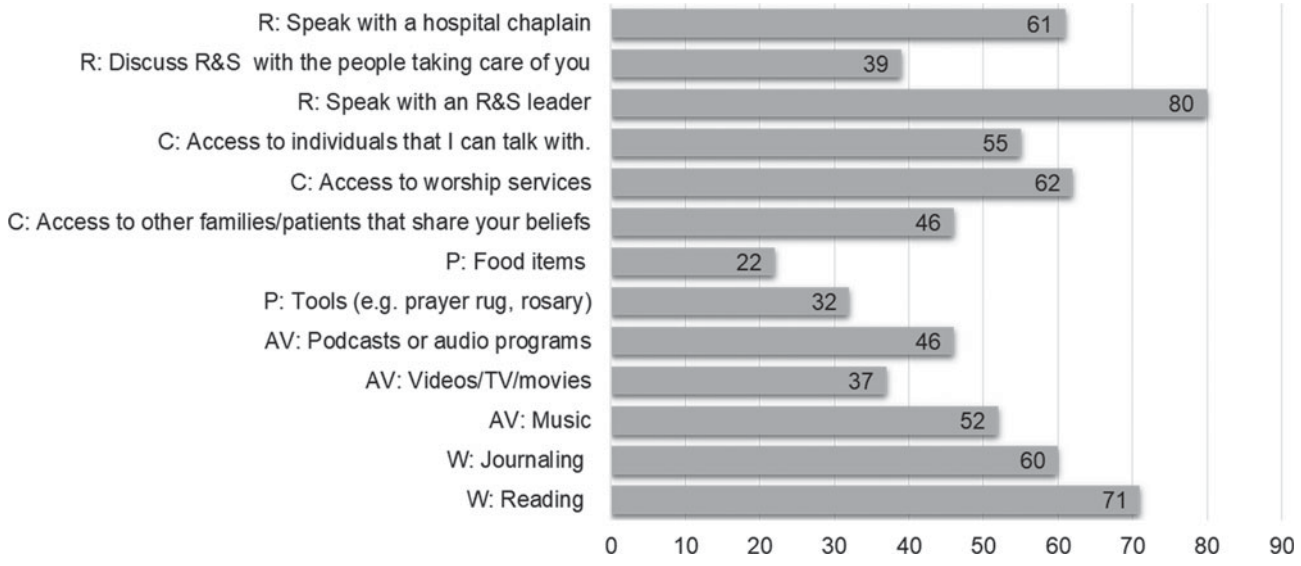

Fig. 2. Details of needs of patients who would like R&S resources during their inpatient stay ($n = 111$).

https://doi.org/10.1017/S1478951520000772 Published online by Cambridge University Press

religion or faith practice, and still was relatively common among patients who identified as spiritual, but not religious. Of note, most patients who desired that R&S be part of their cancer care wanted access to R&S personnel, as well as R&S materials rather than have medical providers be involved in R&S. Collectively, the data serve to emphasize that optimal patient-centered care should consider patient's R&S beliefs and their associated needs around the time of cancer-directed surgery.

Acknowledgments. The authors maintain full control of all primary data included in this article and will make it available for review if requested.

Funding. This research received no specific grant from any funding agency, commercial or not-for-profit sectors.

Conflict of interest. The authors declare no conflict of interest.

References

Akoglu H (2018) User's guide to correlation coefficients. *Turkish Journal of Emergency Medicine*. doi:10.1016/j.tjem.2018.08.001

Astrow AB, Kwok G, Sharma RK, *et al.* (2016) Just what are spiritual needs of cancer patients? An empirical study in a diverse population. *Journal of Clinical Oncology*. doi:10.1200/jco.2016.34.15_suppl.10005

Balogh EP, Ganz PA, Murphy SB, *et al.* (2011) Patient-centered cancer treatment planning: Improving the quality of oncology care. Summary of an Institute of Medicine Workshop. *The Oncologist* **16**(12), 1800–1805. doi:10.1634/theoncologist.2011-0252

Bernard M, Strasser F, Gamondi C, *et al.* (2017) Relationship between spirituality, meaning in life, psychological distress, wish for hastened death, and their influence on quality of life in palliative care patients. *Journal of Pain and Symptom Management* **54**(4), 514–522. doi:10.1016/j.jpainsymman.2017.07.019

Best M, Aldridge L, Butow P, *et al.* (2015a) Assessment of spiritual suffering in the cancer context: A systematic literature review. *Palliative and Supportive Care* **13**(5), 1335–1361. doi:10.1017/S1478951514001217

Best M, Butow P and Olver I (2015b) Do patients want doctors to talk about spirituality? A systematic literature review. *Patient Education and Counseling* **98**(11), 1320–1328. doi:10.1016/j.pec.2015.04.017

Best M, Butow P and Olver I (2016) Doctors discussing religion and spirituality: A systematic literature review. *Palliative Medicine* **30**(4), 327–337. doi:10.1177/0269216315600912

Cohen SR, Sawatzky R, Russell LB, *et al.* (2017) Measuring the quality of life of people at the end of life: The McGill Quality of Life Questionnaire-Revised. *Palliative Medicine* **31**(2), 120–129. doi:10.1177/0269216316659603

Cotton S, Puchalski CM, Sherman SN, *et al.* (2006) Spirituality and religion in patients with HIV/AIDS. *Journal of General Internal Medicine*. doi:10.1111/j.1525-1497.2006.00368.x

Ejaz A, Kim Y, Winner M, *et al.* (2016) Associations between patient perceptions of communication, cure, and other patient-related factors regarding patient-reported quality of care following surgical resection of lung and colorectal cancer. *Journal of Gastrointestinal Surgery*. doi:10.1007/s11605-015-3035-5

Harris PA, Scott KW, Lebo L, *et al.* (2012) ResearchMatch: A national registry to recruit volunteers for clinical research. *Academic Medicine* **87**(1), 66–73. doi:10.1097/ACM.0b013e31823ab7d2

Institute of Medicine (2001) *Crossing the quality chasm: A new health system for the 21th century*. IoM. doi:10.17226/10027

Kim Y, Winner M, Page A, *et al.* (2015) Patient perceptions regarding the likelihood of cure after surgical resection of lung and colorectal cancer. *Cancer* **121**(20), 3564–3573. doi:10.1002/cncr.29530

Koenig HG (2012) Religion, spirituality, and health: The research and clinical implications. *ISRN Psychiatry*. doi:10.5402/2012/278730

Koenig HG and Büssing A (2010) The Duke University Religion Index (DUREL): A five-item measure for use in epidemological studies. *Religions* **1**(1), 78–85. doi:10.3390/rel1010078

Krupski TL, Kwan L, Fink A, *et al.* (2006) Spirituality influences health related quality of life in men with prostate cancer. *Psycho-Oncology*. doi:10.1002/pon.929

Kruser JM, Pecanac KE, Brasel KJ, *et al.* (2015) "And I think that we can fix it": Mental models used in high-risk surgical decision making HHS public access. *Annals of Surgery* **261**(4), 678–684. doi:10.1097/SLA.0000000000000714

Lai C, Luciani M, Di Mario C, *et al.* (2018) Psychological impairments burden and spirituality in caregivers of terminally ill cancer patients. *European Journal of Cancer Care*. doi:10.1111/ecc.12674

Merath K, Kelly EP, Hyer JM, *et al.* (2019) Patient perceptions about the role of religion and spirituality during cancer care. *Journal of Religion and Health*, 1–13. doi:10.1007/s10943-019-00907-6

Palmer Kelly E, Agne JL and Pawlik TM (2019*a*) Exploring the perception of survivors on the bidirectional impact between cancer and their social contexts: A mixed-methods approach. *Palliaitive & Supportive Care* **17**(6), 668–676.

Palmer Kelly E, Payne N and Pawlik TM (2019*b*) Understanding patient expectations around therapeutic benefits, risks, and the chance of cure. *The American Journal of Surgery* **217**(3), 410–412. doi:10.1016/J.AMJSURG.2018.08.012

Paredes AC and Pereira MG (2018) Spirituality, distress and posttraumatic growth in breast cancer patients. *Journal of Religion and Health*. doi:10.1007/s10943-017-0452-7

Pargament KI, Koenig HG, Tarakeshwar N, *et al.* (2004) Religious coping methods as predictors of psychological, physical and spiritual outcomes among medically ill elderly patients: A two-year longitudinal study. *Journal of Health Psychology*. doi:10.1177/1359105304045366

Pecanac KE, Kehler JM, Brasel KJ, *et al.* (2014) It's big surgery: Preoperative expressions of risk, responsibility, and commitment to treatment after high-risk operations. *Annals of Surgery* **259**(3), 458–463. doi:10.1097/SLA.0000000000000314

Peteet JR and Balboni MJ (2013) Spirituality and religion in oncology. *CA: A Cancer Journal for Clinicians*. doi:10.3322/caac.21187

Puchalski CM (2001) The role of spirituality in health care. *Proceedings (Baylor University Medical Center)* **14**(4), 352–357. doi:10.1080/08998280.2001.11927788

Puchalski CM (2012) Spirituality in the cancer trajectory. *Annals of Oncology* **23**(suppl. 3), 49–55. doi:10.1093/annonc/mds088

Puchalski CM, Sbrana A, Ferrell B, *et al.* (2019) Interprofessional spiritual care in oncology: A literature review. *ESMO Open* **4**(1), 1–12. doi:10.1136/esmoopen-2018-000465

Reja U, Manfreda K, Hlebec V, *et al.* (2003) Open-ended vs. close-ended questions in web questionnaires. *Developments in Applied Statistics*. doi:10.1016/0040-6031(92)85160-W

Roland KB, Rodriguez JL, Patterson JR, *et al.* (2013) A literature review of the social and psychological needs of ovarian cancer survivors. *Psycho-Oncology* **22**(11), 2408–2418. doi:10.1002/pon.3322

Sankhe A, Dalal K, Agarwal V, *et al.* (2017) Spiritual care therapy on quality of life in cancer patients and their caregivers: A prospective non-randomized single-cohort study. *Journal of Religion and Health* **56**(2), 725–731. doi:10.1007/s10943-016-0324-6

Visser A, Garssen B and Vingerhoets A (2010) Spirituality and well-being in cancer patients: A review. *Psycho-Oncology* **19**(6), 565–572. doi:10.1002/pon.1626

Williams JA, Meltzer D, Arora V, *et al.* (2011) Attention to inpatients' religious and spiritual concerns: Predictors and association with patient satisfaction. *Journal of General Internal Medicine*. doi:10.1007/s11606-011-1781-y

Winner M, Wilson A, Yahanda A, *et al.* (2016) A cross-sectional study of patient and provider perception of "cure" as a goal of cancer surgery. *Journal of Surgical Oncology*. doi:10.1002/jso.24401

https://doi.org/10.1017/S1478951520000772 Published online by Cambridge University Press