A diagnosis of cancer frequently creates fear and uncertainty that can provoke a spiritual crisis for patients. Cancer, among the most feared of all diseases, is the product of cumulative and environmental factors that place everyone at risk. Cancer is the second leading cause of death in the United States, resulting in about 1,500 fatalities a day (American Cancer Society [ACS], 2002). The five-year survival rate of all cancers combined is 62%, and 8.9 million people are living with cancer (ACS).

The concepts of religion and spirituality and their relationship to health were discussed widely in the nursing literature during the 1990s (Berggren-Thomas & Griggs, 1995; Hall, 1997; Mickley, Carson, & Soeken, 1995; Oldnall, 1995; Sumner, 1998). The concept of spirituality generally is regarded as being broader than religion, encompassing the need to find meaning in life, death, and suffering; transcendence; and a sense of connectedness with one’s self, other people, and higher powers. Although religious beliefs and practices are considered to be expressions of spirituality, spirituality can be expressed apart from traditional religious beliefs and activities (Emblen, 1992; Peri, 1995; Sumner). However, religion may be the primary way or even the only way in which many people express their spirituality (Forbes, 1994; Roberts & Messenger, 1993).

Patients with cancer have been found to focus increasingly on religious and spiritual issues as their illness becomes more severe. Roberts, Brown, Elkins, and Larson (1997) reported that half of the women they studied with various stages of cancer said they had become more religious and none said they had become less religious since their diagnosis. McMillan and Weitzner’s (2000) study of end-stage patients with cancer also found that patients placed great emphasis on religion and spirituality. When asked what helped them to maintain their quality of life, patients most often

Laura T. Flannelly, PhD, RN, Kevin J. Flannelly, PhD, and Andrew J. Weaver, PhD, MTh

Purpose/Objectives: To review qualitative and quantitative research studies measuring religious and spiritual variables published in American oncology nursing journals from 1990–1999 and the types of measures used.

Data Sources: All research studies published from 1990–1999 in Oncology Nursing Forum, Cancer Nursing, and the Journal of Pediatric Oncology Nursing.

Data Synthesis: A higher percentage of qualitative (27%) than quantitative (14%) oncology nursing studies reported findings on religious and spiritual variables. Religion or spirituality was the major focus of 14% of qualitative studies, and these concepts emerged in qualitative studies even when they were not a study’s research focus. Religion or spirituality was the primary independent or dependent variable in 10% of quantitative studies and was a prominent measure in quantitative studies on patients’ needs, coping, and quality of life.

Conclusions: Nursing researchers in oncology are more likely to study issues relating to religion and spirituality than researchers in other fields of nursing, and substantially more research on these topics has been reported in oncology nursing than in the research literature on psychology or various fields of medicine.

Implications for Nursing: Implications include the value of (a) combining qualitative and quantitative methods in a single study, (b) incorporating demographic measures, such as religious denomination, as independent variables in analyses, (c) using separate and multiple measures of religion and spirituality in research, and (d) differentiating between religious and spiritual needs in research and practice.

Key Points . . .

➤ A review of all research published in three major oncology nursing journals between 1990 and 1999 found that nursing studies in this field were substantially more likely to explore religion and spirituality than similar research reviews in medicine, psychology, or other healthcare fields.

➤ Overall, nearly 17% of all research studies published between 1990 and 1999 in Oncology Nursing Forum, Cancer Nursing, and the Journal of Pediatric Oncology Nursing examined some aspect of religion or spirituality.

➤ Religion and spirituality were significantly more likely to be examined by qualitative rather than quantitative studies in oncology nursing between 1990 and 1999.

➤ Nursing researchers have found that it is common for patients and their caregivers to spontaneously mention that religion and spirituality are important to them in dealing with cancer.

Laura T. Flannelly, PhD, RN, is an associate professor of nursing in the School of Nursing and Dental Hygiene at the University of Hawaii at Manoa in Honolulu. Kevin J. Flannelly, PhD, is associate director; and Andrew J. Weaver, PhD, MTh, is director of research, both at The HealthCare Chaplaincy in New York, NY. (Submitted February 2001. Accepted for publication May 31, 2001.)
chose “relationship with God” from among 28 choices presented, including such other items as “how well I eat,” “physical contact with those I care about,” and “pain relief.”

Recent studies indicate that spiritual care and well-being play key roles in the quality of life of patients with cancer. The importance of quality of life has long been recognized in oncology and is becoming more important for patients as treatment advances extend the length of survival (Montazeri, Gillis, & McEwen, 1998). A study of more than 1,300 patients with cancer found that spiritual well-being influenced their quality of life as much as emotional and physical well-being (Brady, Peterman, Fitchett, Mo, & Cella, 1999) and that spiritual well-being was associated with the ability to enjoy life, even when experiencing symptoms. Ferrell, Grant, Funk, Otis-Green, and Garcia (1998b) found that spiritual care was more important to patients with cancer than counseling sessions, support groups, peer support, or even spousal support. Spiritual well-being among the 296 patients they studied most often involved feelings of hopefulness, a sense of purpose, prayer or meditation, and attendance at church or temple (Ferrell et al., 1998b).

Spiritual well-being has been found to be an important factor in predicting depression among acute and chronically ill patients. The beneficial aspects of religion and spirituality are of particular interest in this regard, as one in four cancer survivors experience clinical depression (Massie, Holland, & Starkey, 1990). Both cross-sectional and longitudinal studies of hospitalized patients undergoing the acute stress of a new or worsening physical illness have found that an inverse relationship exists between the use of religion as a coping behavior and affective symptoms (Koenig et al., 1992; Pressman, Lyons, Larson, & Strain, 1990). This inverse relationship especially is true for older women, more than 50% of whom have been reported to use religion as a coping strategy during times of stress (Koenig, George, & Siegler, 1988; Krause & Van Tran, 1989), and African Americans (Conway, 1985–1986; Krause & Van Tran).

Researchers also have reported a link between religious beliefs and hope, an essential concept for those suffering from cancer (Sims, 1989). As noted previously, hope has been found to be associated with a sense of spiritual well-being, and patients with a sense of hope report a higher quality of life (Ferrell et al., 1998b). Roberts et al. (1997) found that 93% of the patients with cancer they studied said their faith had increased their capacity to be hopeful. Hope enables people to cope actively with difficult situations and suffering, and hopefulness has been linked to better adjustment by patients undergoing radiation therapy for cancer (Christian, 1990). Nurses can influence patients’ feelings of hope positively or negatively. Hope can be enhanced by taking time to talk to patients and relating to them genuinely, being empathic and helpful, and displaying warmth and sharing information in a compassionate and honest manner (Koopmeiners et al., 1997).

Caregivers of people with chronic illness also tend to rely heavily on religious faith to cope with the burden of long-term care. Rabins, Fitting, Eastham, and Fetting (1990) found that successful coping among family caregivers of people with end-stage cancer and Alzheimer’s disease appeared to be mediated by two major variables: the number of social contacts they had and the support they received from their religious faith. When follow-up data were collected on these family members over two years, the same two variables were found to predict better adaptation to the caregiver role (Rabins, Fitting, Eastham, & Zabora, 1990). These findings indicate the extent to which religious faith is used as a coping mechanism and the positive influence it has for caregivers.

Several prominent nursing leaders and scholars in the United States and Great Britain have called for more clinical attention to spirituality and religion within various nursing specialties (Corcoran, 1993; Praill, 1995; Rothrock, 1994; Wright, 1998), including oncology (Taylor, Highfield, & Amenta, 1999). The focus on spirituality is consistent with nursing’s historic roots, its professional tradition, and the leadership role nursing has provided in holistic care. Given nurses’ interest in spirituality and the role that religion and spirituality appear to play in the lives of patients with cancer and their caregivers, the authors decided to examine the degree to which research on religion and spirituality had been published in oncology nursing journals during the past decade (1990–1999). The authors were interested primarily in finding the proportion of qualitative and quantitative studies that explored religion and spirituality, whether these proportions have changed over time, the number and nature of the religious and spiritual variables the studies contained, and the context in which the concepts of religion and spirituality were studied.

Methods

Procedure

The authors inspected all the articles published from 1990–1999 in Oncology Nursing Forum, Cancer Nursing, and the Journal of Pediatric Oncology Nursing and selected the research articles for further examination. Research articles were defined as those containing a statement of purpose and a description of research methods and findings. Most research articles contained specific headings for the methods and the findings or results sections.

Research articles were classified as being either qualitative or quantitative research. Research reports that presented descriptive or inferential statistics were classified as quantitative. The authors had 98% agreement in their classification of articles as research or nonresearch and 97% agreement in their classification of research articles as qualitative or quantitative. The relatively few instances in which disagreements arose in the classification of qualitative and quantitative articles tended to occur when an article stated that it used qualitative methodology but included some statistics. The few articles that used both quantitative and qualitative methods were classified as qualitative to be consistent with previous systematic reviews of this nature.

All research articles were classified further with respect to whether their results included religious or spiritual variables or themes. Studies were classified as containing religious or spiritual variables or themes if they used an intervention that contained obvious religious or spiritual content, reported specific measures of religion (e.g., religious beliefs, practices, affiliation) or spirituality (e.g., spiritual health, distress, needs) (Embden, 1992), or identified themes specifically related to these concepts. Qualitative studies often included specific examples of participants’ references to God, faith, the
meaning of life, or other spiritual or religious themes. The authors read these articles in detail and appraised their content in a method similar to that used by Craigie, Liu, Larson, and Lyons (1988); Larson, Pattison, Blazer, Omran, and Kaplan (1986); and Sherrill, Larson, and Greenwood (1993). Each religious or spiritual measure in the articles was identified, and the nature and number of religious and spiritual variables were recorded. Interrater agreement in classifying articles in terms of religious and spiritual content was 99%. The number of religion and spiritual citations in each study’s reference list also was counted.

Data Analysis

Although the authors primarily were interested in assessing the relative proportion of qualitative and quantitative articles that contained religious variables, the first step was to determine whether the journals differed in terms of the kind of the research (i.e., qualitative versus quantitative) they published. To assess this, the authors calculated the percentage of qualitative and quantitative articles in each of the three journals, grouping the data into two-year intervals to look for possible changes over time. The percentage data were analyzed by analysis of variance in a 3 (journals) x 5 (intervals) x 2 (qualitative versus quantitative) split-plot design (Edwards, 1985). The same design was used to analyze the percentage of qualitative and quantitative articles that contained a religious or spiritual variable. The authors used the $\chi^2$ test to analyze frequency data to assess researchers’ likelihood to cite literature on religion and spirituality.

Results

Analysis of variance revealed a statistically greater percentage of quantitative (79%) than qualitative (21%) articles among the 722 research articles identified ($F[1,15] = 121.4$, $p < 0.001$). The three journals did not differ significantly with respect to the percentages of qualitative and quantitative studies they published, and the relative proportion of each type of study did not change over the 10-year period sampled.

One or more religious or spiritual variable was found in 17% (122 of 722) of all research articles, with a higher percentage of qualitative studies (27%, 42 of 154) than quantitative studies (14%, 80 of 568) containing religious or spiritual variables ($F[1,15] = 4.70$, $p < 0.05$). No significant differences were found in the percentage of studies with religious or spiritual variables among the three journals over time. No difference was found in the proportion of qualitative and quantitative studies that cited books or articles on religion or spirituality in their reference lists.

Qualitative Studies

As shown in Table 1, religion or spirituality was a primary focus of 6 (14%) of the 42 qualitative studies that contained religious or spiritual variables, which included 3 studies on the spiritual relationship between nurses and patients’ families, 1 on spiritual distress, and 3 on patients’ quality of life. On the other hand, religious affiliation was the only religious or spiritual variable measured in 5 of the 42 qualitative studies (12%).

Table 1. Qualitative Studies Containing Religious or Spiritual Variables by Focus, Measures, and Percentage of Religious or Spiritual Citations

<table>
<thead>
<tr>
<th>Finding</th>
<th>Number of Studies</th>
<th>% of Religious or Spiritual Citations</th>
<th>Median</th>
<th>$\chi$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Religion or spirituality was major focus.</td>
<td>6</td>
<td>14</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Religion or spirituality emerged as a theme.</td>
<td>31</td>
<td>74</td>
<td>–</td>
<td>1</td>
</tr>
<tr>
<td>Only religious affiliation was measured and was not central to the study’s purpose.</td>
<td>5</td>
<td>12</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>All qualitative studies that contained religious or spiritual variables</td>
<td>42</td>
<td>100</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

Religion or spirituality emerged as themes in the remaining 31 articles (74%), although neither was a research focus of these studies. Spirituality emerged as an element of patients’ quality of life even when it was not the focus of the study. Other common religious and spiritual themes were the importance of religion and spirituality (a) in accepting one’s illness, (b) as a source of strength and comfort, (c) in patients’ reliance on their churches as sources of support, and (d) in patients’ use of religious faith and practices (e.g., prayer) as coping mechanisms. Among these 31 studies, 7 (23%) examined patients’ views about the meaning of life or their quality of life, 8 (26%) examined patients’ daily life experiences, and 5 (16%) examined patients’ attitudes, perceptions, or needs. Three other studies (10%) investigated pain or comfort, and three (10%) investigated hope or sorrow.

Although religion or spirituality frequently emerged as a theme, only 8 of the 42 qualitative studies (19%) with religious or spiritual variables cited literature on these topics. Naturally, the qualitative studies with a religious or spiritual focus were significantly more likely than those without religion or spiritual focus to cite literature on these topics, according to the median test ($\chi^2[1] = 34.1$, $p < 0.001$).

Quantitative Studies

Table 2 displays the distribution of quantitative studies in six mutually exclusive categories with respect to their focus on religion or spirituality and the nature and number of religious or spiritual variables they contained. As shown in Table 2, religion or spirituality was the major focus of 10% of the 80 studies, as indicated by their titles and content. Combining these studies with those in which religion and spirituality were measured in connection with patients’ needs, coping behavior, or quality of life, 44% of the 80 studies specifically were intended to evaluate the role of religion and spirituality in patients’ lives.

Seven of the eight studies whose major focus was religion or spirituality used multiple-item scales for measuring religiosity or spirituality, and one used a religious and spiritual videotape as an intervention. Most of the research on quality of life also

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*A list of the 122 studies that included religious or spiritual variables can be obtained by e-mailing Laura T. Flannelly, PhD, RN, at flannel@hawaii.edu.*
used multiple-item measures of spirituality. Forty-one percent of the quantitative studies containing religious or spiritual variables asked two or more questions about religion or spirituality. Seven of the quantitative studies asked one or more open-ended questions. Although these questions did not address religion or spirituality directly, they often elicited spontaneous references to these concepts from nurses and patients.

In addition to the 26 quantitative studies that measured only religious affiliation, another 15 quantitative studies measured religious affiliation along with one or more other measures of religion or spirituality. Hence, more than half of the 80 studies (51%) contained a measure of religious denomination or affiliation. Only seven of these studies, however, examined the effects of religious affiliation in their analyses.

Aside from the one quantitative study that used a spiritual videotape as an intervention, all of the studies whose focus was religion or spirituality included separate scales of religiosity and spirituality. Ten of the 12 quantitative studies of quality of life measured spirituality primarily in terms of patients’ faith in God, and 8 of the 10 studies of coping responses included religious faith or prayer as measures of religion or spirituality. Discerning which specific needs were classified as spiritual in several of the quantitative studies that examined patients’ needs was difficult.

In total, 21 of the 80 quantitative studies (26%) that contained religious or spiritual variables also included citations related to literature in this area. The eight studies that had religion or spirituality as their major focus were significantly more likely to cite books or articles about religion or spirituality ($P^2[1] = 20.9, p < 0.001$). Further examination of the religious or spiritual references in these eight quantitative studies revealed that the majority (53%) were references from the nursing literature, including 15% from oncology nursing journals. Thirty-four percent were references from other healthcare journals, including journals of religion and health (16%). Most of the remainder were from books (9%) and journals (3%) specifically about religion or spirituality outside of healthcare.

### Discussion

The emergence of spiritual themes in many qualitative studies that did not have religion or spirituality as their focus was striking evidence of the importance of spirituality in the lives of patients with cancer and their caregivers. Although one might expect that these themes would appear in qualitative studies investigating the quality of life or the meaning of life for patients with cancer, the themes also emerged in studies on a variety of other research topics and were common in studies that examined the everyday experiences of patients and caregivers. Spiritual themes rose from open-ended questions used in several quantitative studies, even when spirituality was not the focus of the research.

Carson, Winkelstein, Soeken, and Brunins (1986) noted that the majority of all nursing articles on spirituality published between 1974 and 1984 tended to examine religious practices instead of the transcendental nature of spirituality. The present findings indicate that research on spirituality beyond religious practices was fairly well represented in the oncology nursing literature published between 1990 and 1999. The qualitative studies that focused on spirituality included facets of spirituality aside from formal religion (Ferrell, Grant, Dean, Funk, & Ly, 1996; Ferrell, Grant, Funk, Otis-Green, & Garcia, 1998a; Georgesen & Dungan, 1996; Stiles, 1990, 1994; Wyatt, Kurtz, & Liken, 1993), and quantitative studies of the quality of life of patients with cancer tended to use measures of transcendence, albeit usually in terms of patients’ faith in God. All seven of the quantitative studies that specifically were designed to assess the spiritual beliefs and practices of nurses and patients used dependent variables that measured nonreligious aspects of spirituality along with dependent variables measuring religion or religiosity (Fehring, Miller, & Shaw, 1997; Fernsler, Klemm, & Miller, 1999; Mickley & Soeken, 1993; Post-White et al., 1996; Powe & Weinrich, 1999; Taylor, Amenta, & Highfield, 1995; Taylor, Highfield, & Amenta, 1994).

All quantitative studies that focused on spirituality used sophisticated measures of this concept. This was less likely to be true for studies in which spirituality was part of a larger concept (e.g., quality of life). Articles in which the concepts of religion or spirituality appeared to be incidental to the study’s focus typically used simple measures, such as a single question about religion, spirituality, or religious affiliation.

Although spirituality often emerged as a theme in qualitative studies, researchers rarely related their findings to the existing literature on spirituality unless spirituality was the focus of the study. This generally was true for quantitative studies as well. Unless religion or spirituality was the specific purpose of a study, findings relating to these topics received little discussion and few references to the related literature were cited. Among the studies that focused on religion or spirituality,
quantitative studies made substantially more use of the existing literature inside and outside of nursing than did qualitative studies.

Overall, 17% of all studies published in the three journals between 1990 and 1999 contained religious or spiritual variables. The percentage was higher for qualitative (27%) than quantitative (14%) studies, perhaps because patients and caregivers commonly mention their spiritual and religious practices and beliefs in response to open-ended questions about their lives and experiences.

Similar systematic reviews of the research literature in psychology and various fields of medicine found that 1%–4% of quantitative studies contained religious or spiritual variables (Craighie et al., 1988; Larson et al., 1986; Sherrill et al., 1993; Weaver, Kline, et al., 1998). By comparison, the number of studies in oncology nursing that contained religious or spiritual variables was remarkably high. Mental health nursing was found to have a higher proportion of research articles containing religious or spiritual variables (10%) (Weaver, Flannelly, Flannelly, Koenig, & Larson, 1998) but not as high as the proportion found in the current review of nursing literature.

Why do nurse researchers, particularly oncology nurse researchers, place more emphasis on religion and spirituality than other healthcare researchers? A number of reasons may help to explain this finding. Spirituality is a prominent theoretical concept in the nursing literature (Emhlen, 1992; Marsolff & Mickley, 1998; Mayer, 1992; O’Neill & Kenny, 1998), and nursing’s embrace of spirituality is rooted in the profession’s history. Florence Nightingale saw spirituality as an intrinsic aspect of human nature and saw spirituality and science as compatible ways of viewing the world (Macrae, 1995; Widerquist, 1992). Another reason may be that nurses tend to be religious and attend religious services regularly (Boutell & Bozett, 1990; Taylor et al., 1994, 1995). By comparison, many psychologists say they have no religious affiliation (“Politics of the Professorate,” 1991). Finally, nurses are more likely to have been exposed to religious and spiritual issues in their education. For example, a national random sample of RNs found that more than 60% of American nurses surveyed said that they were exposed to these issues to some extent during their education (Piles, 1990). In a similar survey of clinical psychologists, only 5% of respondents said that they had been exposed to religious and spiritual issues during their training (Shafranske & Malony, 1990). Further evidence that the concept of spirituality is especially important in oncology nursing is provided by the fact that a 1997 issue of Seminars in Oncology Nursing was devoted to this topic.

Implications

Highfield and Cason (1983) found that the majority of nurses they surveyed assessed the spiritual needs of patients in terms of patients’ religious beliefs and practices and ignored the transcendent and nonreligious aspects of spirituality, such as hope, love, and meaning. Mayer (1992), like Highfield and Cason, believed that focusing on religious beliefs and practices represented a failure to accurately assess patients’ spiritual needs, thereby undermining spiritual care. A subsequent qualitative study by Emhlen and Halstead (1993) found general agreement between patients’ and nurses’ ideas about what constitutes a spiritual need and which interventions are useful. From a clinical perspective, however, the authors believed that nurses must encourage patients to explicitly state their spiritual needs and express how they think these needs can be fulfilled.

Some of the five quantitative research studies that included spiritual needs in their assessment of patients’ needs did not explicitly state the kinds of phenomenon that were included as spiritual needs. Given the clinical importance placed on such specification, it would be helpful if future research differentiated between religious and other spiritual needs and enumerated the specific needs that fall within different need categories.

Another point of interest raised by Emblen and Halstead’s (1993) findings was that nurses and chaplains had somewhat different expectations about each others’ roles. A more recent article by VandeCreek (1997) emphasized the need for and offered guidelines for improving effective collaboration between chaplains and oncology nurses. Three studies in the current sample briefly addressed the nature of the roles of chaplains and oncology nurses, mainly with respect to referrals. More research on this topic would be beneficial to both professions as a form of professional collaboration and a way to glean how chaplains and nurses can better work together to serve patients’ spiritual needs.

From a purely research perspective, seven of the eight quantitative studies that specifically were designed to investigate religion and spirituality included measures of religious and nonreligious aspects of spirituality that contained multiple items (Fehring et al., 1997; Fernsler et al., 1999; Mickley & Soeken, 1993; Post-White et al., 1996; Poe & Weinrich, 1999; Taylor et al., 1994, 1995). The research sophistication of these studies, with respect to measurement and their attempt to differentiate between the two concepts, provides excellent models for other researchers to follow.

On the other hand, 41 quantitative studies reported religious affiliation as part of their results, but only 7 incorporated it into their research design and statistical analyses (Bennet & Lengacher, 1999; Fernsler et al., 1999; Matzo & Emanuel, 1997; Miller & Champion, 1993; Rooda, Clements, & Jordan, 1999; Yi, 1998; Young, Volker, Rieger, & Thorpe, 1993). Collecting demographic variables and incorporating these data into the research questions or hypotheses of interests and analyzing their statistical effects can be worthwhile. Even when religious and spiritual variables are not originally envisioned as essential elements of a study, analyzing the interrelationships among them and the variables of specific interest through more complex designs can reveal important, if unexpected, results. Interestingly, religion or spirituality was the primary focus of only one of the studies that analyzed the statistical effects of religious affiliation (Fernsler et al., 1999).

A major distinction between qualitative and quantitative research is the difference between their respective emphases on the context of discovery and the context of verification (Porter, 1989). The exploratory aspect of qualitative research, along with its subject-oriented nature (Carr, 1994; Sandelowski, 1986), may account for many of the patient references to religion and spirituality in such studies. Whereas some nursing scholars have seen these and other differences between qualitative and quantitative research as fundamental and paradigmatic distinctions between the two approaches (Cull-Wilby & Pepin, 1987; Leininger, 1985, 1994), many nursing researchers consider the differences between the two approaches to be mainly methodologic rather than philosophical (Carr,
References


