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SYSTEMATIC REVIEWS AND META ANALYSES

Twenty-five years later—what do we know about religion/spirituality and psychological well-being among breast cancer survivors? A systematic review

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Abstract
Introduction A diagnosis of cancer is a life-changing event for most people. The trauma and uncertainties of a breast cancer diagnosis can affect survivors' psychological well-being. Religion and/or spirituality can provide a means of support for many women as they live with the realities of a diagnosis of cancer. The purpose of this focused review is to critically analyze and synthesize relationships among psychological well-being, religion, and spirituality among women with breast cancer.
Methods MEDLINE, CINAHL, Web of Science, Cambridge Scientific Abstracts, Cochrane CENTRAL, and PsycINFO databases were searched: January 1985–March 2010. The search terms religi*(religious/religion), spiritu* (spiritual/spirituality), breast cancer, psychological adjustment, psychological outcomes, psychological distress, psychological well-being, and outcomes were searched for separately and in combination.
Results Eighteen quantitative studies were analyzed in order to examine associations among religion, spirituality, and psychological well-being for women diagnosed with breast cancer. These three variables were operationally defined as follows: (a) religious practice, religious coping, and perception of God; (b) spiritual distress, spiritual reframing, spiritual well-being, and spiritual integration; and (c) combined measure of both the religion and spirituality constructs.
Discussion/conclusions Results of this review suggest that within this population, limited relationships exist among religion, spirituality, and psychological well-being. Given the various definitions used for the three variables, the strength and clarity of relationships are not clear. In addition, the time of assessment along the course of the disease varies greatly and in some instances is not reported. Diagnosis and/or prognosis, factors that could influence psychological well-being, are frequently not factored into results. There does, however, appear to be sufficient evidence to include a brief, clinically focused assessment of women diagnosed with breast cancer regarding the importance of a given belief system as they face the diagnosis and treatment of their disease.
Implications for cancer survivors The implications for cancer survivors are as follows: (a) Psychological well-being of women diagnosed with breast cancer may depend to some extent on their belief system. (b) Coping through "turning to God" for women without a significant prior relationship with God, or minimal spiritual behaviors, may experience diminished well-being. (c) Longitudinal studies suggest that struggling with, or questioning, one's belief system in early survivorship may also be associated with lower levels of well-being. This diminished well-being often resolves over time.

Keywords Systematic review · Breast cancer · Religion · Spirituality · Well-being · Distress

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Introduction

Women across the world experience common fears and concerns when diagnosed with breast cancer. Questions

related to treatment and cure, body image, relationships with family and others, and fear of the unknown are common regardless of where a woman lives or what treatments are available. Religion and spiritual practices are potential resources that can provide comfort and guidance.

The number of cancer survivors in the USA has increased dramatically in the past 30 years, from 3 million in 1971 to 10.8 million in 2004 [1]. The World Cancer Report 2008 [2] notes that there are 12.4 million new cancer cases and 7.6 million cancer deaths worldwide each year (p. 42), and up to 50% of persons with cancer report some type of psychological distress (p. 82). Because of high incidence rates and improved treatment, women with breast cancer are the largest group of survivors (23%) and most live well beyond 5 years post-diagnosis [1]. There is some evidence to suggest that religion/spirituality (R/S), as well as a number of psychological factors, is related to the well-being of women during the survivorship period [3–8]. Although considerable research has been conducted regarding R/S and cancer, there is no consensus in the literature as to the definitions of R/S. To date the role that R/S plays regarding an individual's psychological well-being and/or psychological distress is unclear [9].

This review of the literature was restricted to breast cancer survivors for two reasons: (1) women with breast cancer identify R/S as an important coping resource [10–15] and (2) the preponderance of research on R/S and psychological well-being has been conducted within this population. Few studies have been conducted relative to R/S and cancer survivors with diagnoses other than breast cancer. Given the small number, they have been excluded from this review. Prior to the early to mid-2000s, psychological or quality of life-based studies, regarding adjustment to cancer, did not routinely examine religious/spiritual concepts [16]. Nonetheless, current survivorship and palliative care group guidelines and reports emphasize the importance of R/S and psychological well-being and distress [3, 17]. Fifteen of the 18 studies reviewed were completely or primarily in early survivors, less than 2 years from diagnosis.

Religion and spirituality are clinically recognized as important factors in adjusting to cancer and cancer survivorship. Specific aspects of religion and spirituality that have the greatest impact on adjustment have not yet been determined. In part, this may be due to a lack of consensus on what is meant by the terms religion and spirituality and the overlap of the two concepts [18]. The operational definitions for this review were derived from the numerous operational definitions for psychological well-being, religion, and spirituality identified in the studies examined. After listing the operational definitions from the 18 studies appraised, the authors defined the concepts of psychological well-being, religion, and spirituality as follows: Psychological well-being is defined as a positive state reflected in measures of adjustment, spiritual/emotional/mental well-being, and positive attitude. Lack of distress, anxiety, and depression are also considered to be reflective of a state of psychological well-being. Religion is defined as religious practice, religious coping, perception of God, and religious support. Spirituality is defined as meaning in life, spiritual well-being, and spiritual integration.

Developing a standardized set of measures for these phenomena would allow for improved assessment and targeted interventions for breast cancer survivors. Before a standard can be established, existing data must be examined and analyzed to identify consensus as well as divergence on the relationship between religion, spirituality, and psychological well-being. This review is designed to identify what is currently known about the relationships between religion, spirituality, and psychological well-being.

Methods

Design

This article describes a systematic review of the literature regarding the relationship between religion, spirituality, and psychological well-being among women with breast cancer. The format for the review follows the process outlined by White and Schmidt [19].

Search methods

Electronic searches were conducted using MEDLINE, CINAHL, Web of Science, Cambridge Scientific Abstracts, Cochrane CENTRAL, and PsycINFO databases. The search included the period January 1985–July 2011 and was limited to full papers published in English. Key terms searched separately and in combination included religi* (religious/religion, religiousity), spiritu*(spiritual/spirituality), breast cancer, psychological adjustment, psychological outcomes, psychological distress, psychological well-being, and outcomes. In addition, hand searches of reference lists were reviewed to identify additional papers. Abstracts were reviewed by both authors prior to retrieving full copies. Full copies were then read and included or excluded based on the inclusion/exclusion criteria listed below (Fig. 1).

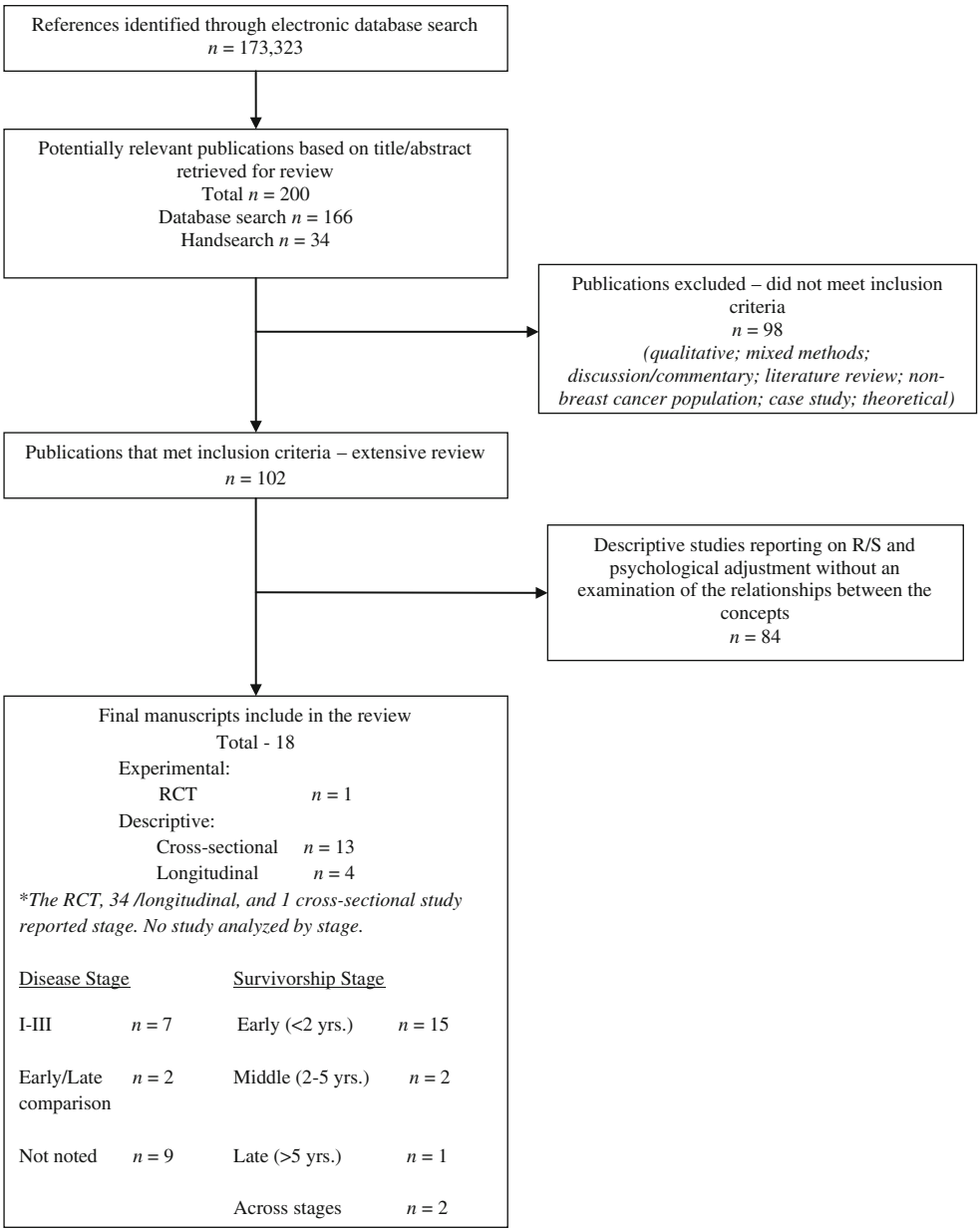

Fig. 1 Flow diagram for reference identification, retrieval, and inclusion in review

Inclusion criteria:

- Full text quantitative papers
- Statistical testing designed to identify relationships between religion, spirituality, and psychological well-being
- Population women diagnosed with breast cancer

Exclusion criteria:

- Studies with mixed cancer populations

Study selection and data extraction

Two reviewers independently assessed 102 publications related to R/S and psychological well-being and distress. The majority of the papers (n=84) described R/S and psychological outcomes without examining relationships between the concepts. Full text review was performed for all studies. Eighteen studies met all inclusion criteria and were included in the review as described in the flow diagram (Fig. 1). Using a template, data were extracted by the primary reviewer (JS) and checked by the second reviewer (DB). Determinative discussions between the reviewers were used to establish agreement on data extraction results.

Quality appraisal

The Critical Appraisal Skills Programme guidelines appropriate for each study were used to assess quality [20]. Both

reviewers independently assessed each of the included studies (JS, DB) and resolved disagreements through discussion.

Data abstraction

The eighteen studies included were: experimental—randomized clinical trial (RCT) (n=1), descriptive—cross-sectional (n=13), and longitudinal (n=4). Sample sizes ranged from 32 to 418. The majority of studies were from the USA; five studies were from Canada and Germany. Conceptual definitions used to measure religion, spirituality, psychological well-being, and psychological distress are listed in Table 1. Descriptive data for the 18 studies are found in Table 2.

Synthesis

Analysis of study findings was conducted to discover recurring findings and themes [21]. Findings were reviewed and labeled, then classified into similar groupings, and finally reduced to discussion in terms of psychological distress and psychological well-being.

Table 1 Summary of concepts measured

Religion
Behaviors—frequency of attendance, denominational/religious affiliation, prayer
Self-perceived importance
Religious coping
Religious support
God image
Spirituality
Meaning in life
Faith
Spiritual integration
Forgiveness of self/self-blame
Psychological well-being
Mood
Emotional well-being
Social well-being
Well-being
Social support
Self-esteem
Life satisfaction
Optimism
Benefit finding
Post-traumatic growth
Locus of control
Hope
Stress
Anxiety
Depression

Results

This section includes an overview of research based on the concepts of religion and spirituality that examined their relationship with psychological well-being. The final reviewed manuscripts included one randomized clinical trial experimental study [22], and 16 descriptive studies: 13 cross-sectional [11, 15, 23–33]; and 4 longitudinal [34–37] (Fig. 1).

Whether or not the stage of disease or stage of survivorship affects the relationship between R/S and psychological well-being and distress is not well-known or researched. In this review, seven studies included women with Stage I–III disease [11, 15, 22, 28, 31, 34, 38] and nine did not report stage [23, 25, 26, 29, 30, 32, 33, 37]. Only two studies examined responses based on early and late stage [24, 35] and reported no difference between the groups. The vast majority of the studies included women in the early stage of survivorship, less than 2 years from diagnosis [11, 22–24, 26–28, 31, 33–35, 37, 38]. Two studies involved women in a middle stage of survivorship (2–5 years) [25, 29], one with women in the later stages of survivorship (>5 years) [30], and two studies enrolled women across the survivorship spectrum [15, 32]. No major differences in responses were found based on stage of survivorship.

Results are presented within two headings: religion and spirituality. Much discussion can be devoted to the theoretical definitions of religion and spirituality with consensus an elusive target. Some view the two concepts as inextricably intertwined with minimal separation [18, 39] and others perceive spirituality to be a concept independent of religion or religiosity [40, 41]. This review uses the operational definitions most often used to measure religious, spiritual, and psychological constructs as a foundation for examining relationships.

Religion

Studies reviewed in this section describe religion as a construct that is related to, but somewhat separate from, spirituality. The synthesis of 12 studies presented is described in detail in Table 1.

Bussell and Naus [34], using post-traumatic growth (PTG) as a proxy for psychological well-being, found that a combination of religion, positive reframing, and acceptance of chemotherapy did not relate to PTG. However, religion at time of chemotherapy and 2 years post-chemotherapy was strongly correlated with PTG. In a study of 142 women, Cotton et al. [23] used religious practice, spiritual well-being, and quality of life to assess psychological well-being. An active religious practice was found to have a weak relationship with spiritual well-being. There was no

Table 2 Review of the literature

Study	Design and sample	Results/conclusions	Limitations/strengths	Ratings
Religion				
Bussell and Naus [34]	Longitudinal, descriptive. n=59 (T_1); 24 (T_2); breast cancer outpatients.	An examination of the combination of religion, positive reframing and acceptance of chemotherapy did not relate to post-traumatic growth. However, using religion at time of chemotherapy (r=.42, p<.04), using religion 2 years following chemotherapy (r=.56, p<.04), and using positive reframing 2 years following chemotherapy (r=.63, p<.001) were related to post-traumatic growth 2 years following chemotherapy.	Small n with a large attrition rate	Strength: III Quality: B
Cotton et al. [23]	Cross-sectional, descriptive. n=142; participating in larger study comparing the efficacy of 2 psychosocial support programs—standard vs. holistic groups. Data analysis did not separate by intervention groups.	An active religious practice was found to have a weak (r=.18, p<.04) association with spiritual well-being. No difference in quality of life, however, was found between women who have an active religious practice and those who do not.	Perceptions of well-being and quality of life may have been buffered by the income/education demographics of the sample (98% college or higher education; 80% >$30,000 income).	Strength: III Quality: A
Gall et al. [25]	Cross-sectional, descriptive. n=32; diagnosed in past 5 years recruited from newspaper and breast cancer specific newsletter.	Studied image of God as a religious resource among 32 breast cancer survivors diagnosed with the disease within the previous 5 years. An image of God as benevolent was strongly (r=.51, p<.008) correlated with a lack of psychological distress. A strong correlation was found between religious discontent as a coping mechanism and diminished life satisfaction (r=.66, p<.008). Holding an image of God as accepting was moderately and inversely related to psychological distress (r=.43, p<.02).	Small sample, highly religious, highly educated, and financially stable.	Strength: III Quality: B
Gall et al. [26]	Longitudinal, with a cross-sectional analysis, descriptive.	In a study that examined the trajectory of religious coping across time among women diagnosed with breast cancer and women with benign disease, findings showed that positive and negative religious coping predicted concurrent distress and emotional well-being. The variance in emotional distress as related to religious coping ranged from 6% (1 year post-surgery) to 31.6% (1 month post-surgery). Women who worked with God or choose to surrender to God reported higher emotional well-being and lower emotional distress at various points from pre-diagnosis through 2 years post-surgery (ranges—r^2=0.13–0.28, p<0.02 or greater). Women who pleaded for direct intercession from God reported higher emotional well-being pre-surgically (r^2=0.25, p<0.006) and higher emotional distress 1 week post-surgery (r^2=0.21, p<0.015). This may be related to hopefulness for a positive surgical outcome and disappointment with the surgical diagnosis. Lower emotional well-being and higher emotional distress was reported by women who struggled with God and faith issues in early phases of diagnosis and treatment (r^2=0.11, p<0.0001; r^2=0.32,	Due to attrition, participants were less passive in religious deferral coping mechanisms. Small sample for the number of variables reported on. Comparisons done with previous time points only (i.e., no comparison between pre-diagnosis and 2 years post-surgery).	Strength: III

Table 2 (continued)

Study	Design and sample	Results/conclusions	Limitations/strengths	Ratings
		$p<0.0001$). Women who looked to religion as a source for reframing life after the diagnosis of breast cancer reported lower emotional well-being and higher emotional distress over the pre-diagnosis to survivorship phases (ranges—$r^2=0.10–0.27$, $p<0.03$ or greater). Women who engaged in religious activities as a distraction from the stress of breast cancer reported lower emotional well-being at 6 months post-surgery ($r^2=0.37$, $p<0.015$).		
	$n=123$; 24.4% attrition rate at 1 year; $n=92$ for path analysis; women waiting for breast biopsy were recruited.	Authors conclude that use of negative coping leads to increased emotional distress while positive coping leads to well-being. They point out that it may be important to identify spiritual disappointments early in the breast cancer trajectory in order to prevent the development of negative coping strategies.		Quality: B
Gall et al. [24]	Longitudinal, with a cross-sectional analysis, descriptive. $n=123$; 24.4% attrition rate at 1 year; $n=92$ for path analysis; women waiting for breast biopsy were recruited.	Addressed the role of spirituality related to women's response to breast cancer. Image of God, positive attitude, social well-being, and emotional distress at pre-diagnosis, 6 months post-surgery and 1 year post-surgery were assessed. As compared with women who left the study, the sample found religion to be less important in their daily lives. A positive view of God accounted for 48% of the variance in positive attitude (hope and optimism), a negative view of God accounted for 22.19 %. A positive attitude of God was moderately associated with a positive attitude at pre-diagnosis and weakly associated with a positive attitude at 6 months post-surgery. A pre-diagnosis negative view of God had a weak association with emotional distress and moderate inverse relationships with a positive attitude and social well-being. At 6 months post-surgery, there was a weak association a negative image of God and emotional distress and a moderate inverse association with positive attitudes and social well-being.	Measured only negative mood states, positive mood state was the absence of the negative. Sample was less religiously oriented (attrition of highly religiously oriented).	Strength: III Quality: A
Hebert et al. [35]	Longitudinal, descriptive. $n=198$; recruited within 1 month of beginning treatment.	Used linear regression models to examine relationships between positive and negative coping with overall physical and mental well-being, depression, and life satisfaction. Negative religious coping predicted worse overall mental health and life satisfaction (2% of the variance). Positive religious coping was not associated with well-being and stage of cancer did not moderate the relationship between religious coping and well-being.	Highly educated, highly religious group of women.	Strength: III Quality: A
Manning-Walsh [27]	Cross-sectional, descriptive, mailed survey. $n=100$; 1–24 months post-surgery	Study designed to assess whether religious and/or personal support mediate symptom distress and/or influence quality of life among	Self-selected from an on-line breast cancer support group—potential sampling bias. The religious and personal support scales did not have enough items to	Strength: III Quality: A

Table 2 (continued)

Study	Design and sample	Results/conclusions	Limitations/strengths	Ratings
		women with breast cancer did not provide evidence for religious support as a mediator.	differentiate between emotional and instrumental support.	
Purnell et al. [28]	Descriptive, cross-sectional, convenience sample. n=130; Stage II or III breast cancer clinic patients.	An examination of religious practice defined as religious affiliation, frequency of attendance at religious services or activities, spirituality defined as faith or meaning/peace, quality of life, and stress showed significant correlations between meaning/peace and both quality of life and stress. A hierarchical regression analysis used to test relationships among these variables showed a strong a strong positive relationship between meaning/peace and quality of life (B=.65, p<.001) and an inverse relationship between meaning/peace and stress (B=−.39, p<.001). Sociodemographic, social desirability, and disease variables were accounted for in the analysis.	Questions related to religious practice focused on extrinsic religious factors only. "Importance of religion/spirituality in life" does not necessarily translate into daily religious activities. Belonging to a group and frequency of attendance, also do not directly translate into daily religious activities.	Strength: III Quality: A
Romero et al. [29]	Cross-sectional, descriptive. n=81; receiving treatment at medical oncology clinic.	Assessing spirituality among women diagnosed with breast cancer using one item "how spiritual/religious do you consider yourself?" (Likert scale 1 to 5—5 meaning very spiritual/religious). Found that spirituality along with a self-forgiving attitude significantly predicted quality of life R=.61, F (2,58)=17.52, p<.001). Spirituality accounted for 41 percent of the variance in quality of life.	Spirituality measured with a single item. Only measured mood disturbance, no measure of well-being.	Strength: III Quality: B
Schreiber [33]	Cross-sectional, descriptive n=130; early breast cancer survivors (6–30 months) post-diagnosis.	Examined the effect of the survivor's image of God on religious coping strategies, depression, anxiety, stress, concerns about recurrence, and psychological well-being.	Image of God was used to classify survivors and assess differences among groups in religious coping, psychological well-being, psychological distress, and concerns about recurrence. Fairly homogenous sample.	Strength: III Quality: A
Stanton et al. [36]	Longitudinal, descriptive. n=70; newly diagnosed stage I or II breast cancer from 2 hospital sites.	Examined psychological adjustment among breast cancer survivors in relation to hope and coping. They found that women who were low in hope found turning to religion more helpful than women who were high in hope.	Small study sample, relatively homogenous.	Strength: III Quality: A
Zwingmann et al. [11]	Cross-sectional, descriptive study. n=167; German convenience sample from an oncological inpatient rehabilitation center.	Studied positive and negative religious coping patterns among 156 breast cancer patients. They did not find a direct path between religious coping and psychological adjustment.	Newly diagnosed patients. The absence of depression or anxiety was considered as psychological adjustment.	Strength: III Quality: A
Spirituality				
Bauer-Wu and Ferran [30]	Cross-sectional, descriptive. n=78; breast cancer survivors (BCS; n=39) and healthy women (HW; n=39) from academic medical center—poster/newsletter and personal communication	In an examination of breast cancer survivors and healthy women's psycho-spiritual functioning, Bauer-Wu and Ferran found that meaning in life was significantly higher with children (M=67.1) than without children (M=52.1) and psychological stress and distress were higher in survivors without children compared to those with children (psychological distress with children M=16.4, without children M=22.1, distress with children M=18.9, with children M=22.3).	Significant demographic differences between healthy women and breast cancer survivors. Findings related to childless women were based on a very small sample.	Strength: III Quality: A

Table 2 (continued)

Study	Design and sample	Results/conclusions	Limitations/strengths	Ratings
Cotton et al. [23]	Cross-sectional, descriptive. n=142; participating in larger study comparing the efficacy of 2 psychosocial support programs—standard vs. holistic groups. Data analysis did not separate by intervention groups.	Significant correlations found between spiritual well-being and quality of life (r=.48, p<.001), five measures of psychological adjustment (r values range from −.21 to .62).	Perceptions of well-being and quality of life may have been buffered by the income/education demographics of the sample (98% college or higher education; 80%>$30,000 income).	Strength: III Quality: A
Friedman et al. [31]	Descriptive, cross-sectional, convenience sample. n=108	Self-forgiving, self-blame, spirituality, mood, and quality of life were examined in breast cancer survivors. Greater levels of spirituality and self-forgiveness were associated with decreased mood disturbance and better QOL. Self-blame was associated with increased mood disturbance and lower QOL.	Major strength of the study is the multi-cultural distribution: 44% Hispanic, 41% African-American, 10% Caucasian, 4% Asian American, and 1$ Native American.	Strength: III Quality: A
Meraviglia [15]	Descriptive, cross-sectional, convenience sample. n=84	Examined the mediational influence of meaning in life and prayer with demographic data, characteristics of concern, physical, and psychological responses. Functional status and meaning in life accounted for 43% of the variance in psychological well-being. No mediating effect was found for prayer. Separately, meaning in life was positively related to psychological response and negatively related to physical responses; and prayer was positively related to psychological well-being. Women who had higher prayer scale scores reported lower educational levels, lower income, and closer relationships to God.	Although reported that the sample was distributed across a significant survivorship period, the data were analyzed as a whole. No data presented on the three time identified groups: <1 year (36%), 1–5 years (38%), and >5 years (26%).	Strength: III Quality: A
Purnell et al. [28]	Descriptive, cross-sectional, convenience sample. n=130; Stage II or III breast cancer clinic patients.	An examination of religious practice defined as religious affiliation, frequency of attendance at religious services or activities, spirituality defined as faith or meaning/peace, quality of life, and stress showed significant correlations between meaning/peace and both quality of life and stress. A hierarchical regression analysis used to test relationships among these variables showed a strong a strong positive relationship between meaning/peace and quality of life (B=.65, p<.001) and an inverse relationship between meaning/peace and stress (B=−.39, p<.001). Sociodemographic, social desirability, and disease variables were accounted for in the analysis.	Questions related to religious practice focused on extrinsic religious factors only. “Importance of religion/spirituality in life” does not necessarily translate into daily religious activities. Belonging to a group and frequency of attendance, also do not directly translate into daily religious activities.	Strength: III Quality: A
Targ and Levine [22]	RCT; two support group interventions n=181; within 18 months of diagnosis recruited via flyers	Findings from a randomized controlled trial designed to examine differences in a number of variables following two different	Focus of data presentation based on t tests rather than MANOVAs. Both groups were effective and the power and/or the measures used were not	Strength: I Quality: A

Table 2 (continued)

Study	Design and sample	Results/conclusions	Limitations/strengths	Ratings
	and public service announcements.	support group interventions (standard group therapy vs. complimentary/alternative medicine (CAM) group therapy) for women diagnosed with breast cancer showed that when all research question variables were included in a MANOVA there was no significant difference between the groups (F=1.43, p=0.12). In a MANOVA comparison of the two groups, the CAM group had significantly higher levels of spiritual integration (use of spiritual practices, spiritual growth, and embracing life's fullness) than the standard group at completion of the interventions (F=8.09, p=0.005).	able to determine what, if any, was the cause of the differences or similarities between the two groups.	
Yanez et al. [37]	Longitudinal, descriptive. Study 1—n=418; reentry transition after completion of primary breast cancer treatment. Study 2—n=65; male/female, multiple cancers [NOT included in review].	A study of spirituality as a predictor of psychological adjustment was conducted with 418 cancer patients. Spirituality, defined as meaning and peace in life, predicted a modest decrease in depressive symptoms while faith was inversely related to greater depression. Meaning/peace was the only significant predictor (B=.10, p<.01) with women who reported high meaning/peace at baseline and diminished depression at 12 months.	Homogenous, well-educated groups.	Strength: III Quality: A
Religion and spirituality combined				
Wildes et al. [32]	Cross-sectional, descriptive study. n=117; Latinas survivors from clinics, organizations, and support groups.	A measure was used that includes both religion (practices and beliefs) and spirituality (social support from spiritual community) was used to assess relationships between this construct (religion plus spirituality) and health-related quality of life. Findings support the body of evidence that describes Latinos as coming from a culture that emphasizes the importance of religious practices (14, 32). Modest significant correlations were found between health-related quality of life subscales social well-being (SWB; r=0.27, p<.005), relationship with doctor (RWD; r=.22, p<.02), and religion/spirituality. Significant relationships were not found between religion/spirituality and emotional well-being (EWB) and physical well-being (PWB).	Specific to Latina breast cancer survivors. Limits generalizability.	Strength: III Quality: A

difference in quality of life between women who had a religious practice compared to those who did not. Purnell et al. [28] reported no relationship between religious practice, defined as religious affiliation and frequency of attendance at religious services or activities and quality of life or stress.

An individual's perception of God as a religious resource has been used to examine the relationship between religion and psychological distress. An inverse correlation between psychological distress and psychological well-being was assumed. Among 32 women diagnosed with breast cancer over a 5-year period, an image of God as benevolent was strongly, inversely correlated with psychological distress. A strong correlation was found between religious discontent as a coping mechanism and diminished life satisfaction. Holding an image of God as accepting was moderately, inversely correlated with psychological distress [25].

Another study found that a positive image of God accounted for 48% of the variance in positive attitude (hope and optimism), while a negative image of God accounted for 22.2%. Weak associations were found between a negative view of God and emotional distress. There were moderate inverse associations with positive attitudes at two points in time [26].

Schreiber [33], using the Image of God Scale to identify women with similar ways of experiencing God regardless of religious affiliation, found that there were significant differences in psychological well-being, psychological distress, and concerns with recurrence in women who viewed God as highly engaged in their lives compared to those who believed God was not very involved in their lives. Differences in psychological well-being, psychological distress, and concerns about recurrence were not significant based on whether the women viewed God as angry or not. Women who believe in a highly engaged God reported higher psychological well-being and decreased stress, anxiety, depression, and concern about recurrence. Examination of the relationship among image of God, religious coping styles (spiritual conservation [positive] and spiritual struggle [negative]), and psychological well-being identified coping through spiritual struggle as a significant factor. Correlations between image of God and psychological well-being were not significant for women coping through spiritual conservation. Conversely, for women coping through spiritual struggle, weak to strong inverse correlations were identified between women who viewed God as unengaged and either angry or not. Women who viewed God as highly engaged did not demonstrate any change in psychological well-being even when coping through spiritual struggle.

Gall et al. [24], studying women with a diagnosis of breast cancer as well as women with benign disease, found that both positive and negative religious coping predicted concurrent distress and emotional well-being. Women who worked with or surrendered to God reported higher emotional well-being and lower emotional distress, while women who pleaded for intercession from God reported higher well-being pre-surgically but more distress post-surgery. The post-surgical distress could be associated with poor surgical results, such as confirmation of cancer. Lower emotional well-being and higher emotional distress was reported by women who struggled with their religious beliefs. Women who looked to religion to help reframe their lives following a diagnosis of cancer reported lower emotional well-being and higher emotional distress over the pre-diagnosis through the survivorship period. Women who engaged in religious activities as a distraction from the worry of their diagnosis reported lower emotional well-being at 6 months post-surgery.

Other investigators conclude that positive religious coping leads to well-being while negative coping leads to increased distress. Hebert et al. [35] found weak negative correlations between negative religious coping and two variables: overall mental health and life satisfaction. Positive religious coping was not associated with well-being. Religious support did not mediate symptom distress nor influence quality of life among women post-surgical intervention for breast cancer [27].

Examining psychological adjustment among breast cancer survivors in relation to hope and coping, investigators found that women who were low in hope were helped by turning to religion more than women who were high in hope [36]. A study of German breast cancer inpatients did not find a direct path between psychological adjustment and religious coping [11].

The question "how spiritual/religious do you consider yourself" asked of women receiving treatment at an oncology clinic led to findings suggesting that religiousness plus a self-forgiving attitude predicts better quality of life [29].

In summary research on the relationship between religion and well-being among women with breast cancer using various definitions of both constructs (religion—religious practice, image of God, religious coping, and perceptions of religiousness, and well-being—psychological well-being, psychological distress, positive attitudes, distress, emotional well-being, mental health, life satisfaction, psychological adjustment, and quality of life) suggests that religion may play a modest role relative to well-being. The multiple definitions of both religion and well-being used in research to date are problematic. As a result, the role of specific components of both well-being and religion is unclear. Overall it appears that the two construct may be linked in a positive direction.

Spirituality

Studies reviewed that focused on the concept of spirituality describe spirituality without reference to God or to specific religious practices. Eight studies are reviewed below and described in detail in Table 1.

Bauer-Wu and Ferran [30] using meaning in life as a proxy for spirituality found that breast cancer survivors with children had significantly higher meaning in life and lower psychological stress and distress than breast cancer survivors without children. Yanez et al. [37] also defined spirituality with the proxy measure of meaning and peace in life. This longitudinal study found that meaning and peace in life predicted a modest decrease in depressive symptoms. Meaning and peace in life was the only significant predictor of depression at 12 months in women with high meaning and peace at baseline. Meraviglia [15] examined the meditational influence of meaning in life with physical and psychological responses. Functional status and meaning in life accounted for 43% of the variance in psychological well-being for breast cancer survivors. Purnell et al. [28] report a strong, positive relationship between meaning/peace and quality of life and an inverse relationship between meaning/peace and stress.

In a study of women participating in a psychological support program, Cotton et al. [23] found that spiritual well-being was significantly, negatively correlated with helplessness/hopelessness, anxious preoccupation, and cognitive avoidance. Spiritual well-being was also significantly, positively correlated with fighting spirit and fatalism. Quality of life was significantly, negatively correlated with helplessness/hopelessness, and anxious preoccupation, and significantly, positively correlated with fatalism. Romero et al. [29] utilized a single item measure of women's perception of their spirituality, which in combination with a self-forgiving attitude, strongly predicted quality of life and accounted for 41% of the variance. Friedman et al. [31] in a culturally diverse population reported that greater levels of spirituality and self-forgiveness were associated with decreased mood disturbance and better quality of life. Self-blame was associated with increased mood disturbance and lower quality of life.

Targ and Levine [22] conducted the only RCT included in this review. This study was designed to examine difference in outcomes based on two different support group interventions (standard group therapy vs. complimentary/alternative medicine (CAM) group therapy). When all variables were included in a MANOVA, there was no significant difference between the groups. When variables were examined separately, the CAM group had significantly higher levels of spiritual integration (use of spiritual practices, spiritual growth, and embracing life's fullness) than the standard group at completion of the intervention.

Wildes et al. [32] used an instrument that included both religion [practices and beliefs] and spirituality [social support from the spiritual community] to assess the relationships between the construct of religion and spirituality combined and health-related quality of life. Modest, significant correlations (.22–.27, $p<.02$) were found between social well-being, relationship with the doctor, and religion/spirituality in Latina women.

Over all, meaning/peace in life and spiritual/emotional growth were used as constructs defining spirituality in the reviewed spirituality and psychological well-being studies. While there is some consistency in the measurement of spirituality, the construct is examined in relation to a number of different measures of psychological well-being and distress. It is apparent that spirituality plays a role in the well-being of some breast cancer survivors. Given the number of operational definitions for the constructs examined, the importance of spirituality in maintaining or increasing well-being is unclear.

Discussion/conclusions

Findings from this review suggest that religion and/or spirituality can play a role in maintaining and/or increasing well being among breast cancer survivors. Difficulties in drawing specific conclusions from the literature reviewed are the result of a number of problems. First, there are multiple operational definitions used for all examined variables; spirituality, religion, and psychological well-being. To date, the literature does not reflect a consensus. In 2009, a Consensus Conference was called "to identify points of agreement about spirituality as it applies to health care and to make recommendations to advance the delivery of quality spiritual care in palliative care." (p. 885) [40]. The definition that resulted from the Consensus Conference is:

> Spirituality is the aspect of humanity that refers to the way individuals seek and express meaning and purpose and the way they experience their connectedness to the moment, to self, to other, to nature, and to the significant or sacred (p.887) [40]

Kapuscinski and Masters [42] recently published a critical review of scale development for measures of spirituality and identified the primary problem in quantification of spirituality as the lack of agreement in the conceptualization of spirituality. Multiple studies have discussed spirituality and religion as separate, but overlapping, as inextricably intertwined, or completely separate [18, 39, 43–47]. Religion is most frequently measured by quantifying behaviors [48–50]; however, there is a renewed interest in examining how an individual views God as a

proxy for religion [33, 51–54]. Ryff [55, 56] developed a specific measure of psychological well-being; however, many studies report well-being as the absence of psychological distress or quality of life [23, 29, 57]. A question yet to be answered is if psychological distress is an inverse measure of psychological well-being.

Secondly, a small number of studies are identifying clear differences in the psychological impact of a cancer diagnosis related to the disease phase at the time of data collection [24–26, 36, 58]. Unfortunately phase of disease (diagnosis, pre-treatment, post-treatment, survivorship) and/or prognosis is not consistently identified. Each of these factors could influence both well being and belief systems.

Thirdly, a number of studies have identified that women who initially use negative religious coping strategies are without a significant prior relationship with God, or have minimal spiritual behaviors may experience decreased psychological well-being early in survivorship [24–26, 35, 58], which often changed to well-being later in the survivorship period. Negative religious coping signifies a struggle or discordance between one's belief system and the experienced existential/spiritual crisis resulting from the cancer diagnosis. Ellison and Lee [64] define three types of spiritual struggles: "a) divine, or troubled relationships with God; b) interpersonal, or negative social encounters in religious settings; and c) intrapsychic, or chronic religious doubting" (p. 501). Study findings revealed strong associations between spiritual struggles and psychological distress within a community population. Further investigation of negative religious coping (struggle) and its effect on psychological well-being over time is important to understand the short-term or long-term impact of an individual's health-related existential/spiritual crisis on psychological well-being and distress.

Clinically, it appears that an assessment of breast cancer survivors' belief systems in relation to their well-being might be useful. Belief systems enable individuals to interpret life events [59–63]. Whether secular, spiritual, or religious, they can impact health and healthcare decisions such as lifestyle (diet, use of alcohol/drugs) and aggressive or non-aggressive treatment decisions [59, 60]. Assisting these individuals to better understand their belief systems and associated resources may enhance their well-being during the struggles associated with diagnosis and treatment of their disease.

In terms of research, conceptual clarity regarding psychological well-being, religion, and spirituality would enable more detailed examinations of existing relationships and possible associated clinical interventions. While a case can be made for conceptual overlap among well-being, adjustment, and lack of distress, variables of religion and spirituality are more difficult to describe as separate but overlapping entities. The broader view of "belief systems" with an associated measure may advance this particular line of inquiry. In addition, consensus regarding the inclusion of essential factors related to the population of interest (phase of illness, prognosis, etc.) will provide a stronger foundation for estimating relationships.

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