

Spiritual well-being and depressive symptoms among cancer survivors

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Abstract

Purpose Depression is common among patients diagnosed with cancer and may be inversely associated with spiritual well-being. While numerous strategies are employed to manage and cope with illness, spiritual well-being has become increasingly important in cancer survivorship research. This study examined the association between spiritual well-being and depressive symptoms.

Methods This cross-sectional study utilized self-report data from 102 diverse cancer survivors recruited from peer-based cancer support groups in San Diego County. Depression was measured with the Patient Health Questionnaire-8 (PHQ-8) and spiritual well-being was measured with the Functional Assessment of Chronic Illness Therapy—Spiritual Well-Being (FACIT-Sp) comprised of two subscales (Meaning/Peace and Faith).

Results Hierarchical regression analysis indicated that Meaning/Peace significantly predicted depressive symptoms after adjusting for socio-demographics, cancer stage, time since diagnosis, and Faith ($p < .001$).

Conclusions Findings suggest that Spiritual Well-Being is a valuable coping mechanism and that Meaning/Peace has a unique advantage over Faith in protecting cancer survivors from the effects of depression symptoms; therefore, turning to Faith as source of strength may improve psychological well-being during survivorship.

Implications Future programs and healthcare providers should be cognizant of the influential role of spiritual well-being in depression symptoms in an effort to improve psychological well-being among cancer survivors.

Keywords Cancer · Depression · Spiritual well-being · Coping style · Survivorship

Introduction

Cancer is the second leading cause of death in the USA [1]. According to the Center for Disease Control and Prevention [2] and the National Cancer Institute [3], in 2012, there were approximately 13.7 million cancer survivors in the USA, and the number of cancer survivors is projected to increase to almost 18 million by 2022 [4]. Due to advances in detection and treatment, cancer is no longer considered a “death sentence” [5]; in fact, 68 % of patients survive at least 5 years post-treatment [6]. Depression is common in cancer survivors, with reported rates ranging as high as 46 % [7, 8]. The causes of depression are numerous and include cancer symptoms, the effects of the disease, and treatment [9]. Other important factors, often overlooked, that may be associated to depression include spiritual well-being conflict [10].

While numerous strategies are employed to manage the psychological effects of illness and quality of life among cancer patients, spiritual well-being has become increasingly important in cancer survivorship research. However, the literature has shown inconsistent findings in the relationship between spiritual well-being and health outcomes, including psychological well-being outcomes [10–14]. It is unclear whether spiritual well-being-based coping may benefit or hinder a cancer survivor’s psychological adjustment. Some studies suggest that spiritual well-being aids in the coping response by providing cancer patients with a framework to discover meaning and ascertain purpose in life despite the occurrence of a potentially fatal disease [11–13]. In contrast, other studies have reported that spiritual well-being may create distress in patients, possibly contributing to depression, if patients experience “spiritual conflict” where they question

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their beliefs and/or faith in God in the context of their disease [10, 14].

Researchers speculate that the trajectory of salutary health outcomes in the aftermath of cancer diagnosis, in part, depends on whether the patient engages in positive or negative religious coping techniques [15–21]. Positive religious coping methods reflect a secure relationship with a higher power (i.e., God) or a sense of spiritual connectedness. It is expressed by individuals letting go of anger, working collaboratively with God's plan, and using religious involvement as a distraction from worry. Negative religious coping reflects a spiritual struggle with God and oneself. It is conveyed by patients as feeling abandoned or punished by God or by questioning God's power or love. It often leads to spiritual conflict in patients as they reevaluate their spiritual foundation [22].

The Functional Assessment of Chronic Illness Therapy—FACIT-Sp is a well-validated instrument that measures a patients' current spiritual well-being [23]. The FACIT-Sp consists of subscales that measure the different spiritual well-being dimensions, including Faith and Meaning/Peace [24]. Faith measures traditional aspects of religiosity, such as religious activity and intrinsic religiousness [23]. Meaning/Peace assesses the cognitive and affective dimension of spiritual well-being. Each component is viewed as distinct and uniquely contributes to the measurement and understanding of these two dimensions of spiritual well-being in relation to health-related quality of life. However, Meaning/Peace is consistently found to be more strongly related to positive psychological well-being over Faith [13, 25–27]. For example, higher scores in Meaning/Peace have been found to be associated with fewer depressive symptoms and lower cancer-related distress across time [13]. Moreover, additional research is needed to determine the effects of Meaning/Peace and Faith and to ascertain whether one of these dimensions has a stronger association with depression symptoms.

Theoretical rationale

Depression symptoms may result from an inability to successfully cope with a cancer diagnosis and treatment [28]. The relevance for coping support across cancer survivorship is explained, in part, by the stress and coping theory [29, 30]. According to Lazarus and Folkman [30], stress is experienced whenever an individual perceives limited coping resources to an external event that threatens individual well-being. Coping entails an individual's managing efforts to adjust and find meaning after exposure to a stressful condition [30]. In the aftermath of a cancer diagnosis, spiritual well-being often becomes an important stress management technique as cancer is potentially life-threatening. Cancer survivorship provides a unique opportunity for the study of spiritual well-being and its connection to psychological outcomes in the face of uncertain futures and existential crises.

Study purpose

The purpose of this study was to examine the relationship between spiritual well-being and depressive symptoms among cancer survivors. We also examined whether Faith and Meaning/Peace were independently associated with depressive symptoms and examined which dimension (i.e., Faith or Meaning/Peace) was most predictive of depressive symptoms. We hypothesized that after adjusting for socio-demographics, cancer stage, and time since diagnosis: (1) Spiritual well-being would be predictive of depressive symptoms, (2) Meaning/Peace and Faith subscales would be independently associated with depressive symptoms, and (3) Meaning/Peace would account for additional variance in depressive symptoms beyond that predicted by faith.

Methods

Study design and participants

This cross-sectional study utilized community-based participatory research methods during the design and conduct of the study. Between March and December 2012, a purposive sample of English- and Spanish-speaking adult cancer survivors attending cancer support groups in San Diego County was recruited. Overall, 103 cancer survivors were approached, with 102 cancer survivors agreeing to participate. The participants were (a) 18 years or older, (b) residents of San Diego County, (c) able to read and write in English or Spanish, and (d) diagnosed with cancer. San Diego State University's Institutional Review Board approved all study methods and procedures.

Data collection

The participants completed a survey that was either self-administered or interview-administered by trained bilingual research assistants in the participant's language of preference (i.e., English or Spanish). Research assistants explained the study purpose, obtained informed consent, and reviewed instructions for completing the survey with participants.

Measures

Socio-demographics Socio-demographic items included age, ethnicity, education level, marital status, and income. Information on personal and family history of cancer (i.e., years since diagnosis and stage at diagnosis) was also collected. Items stem from the Hispanic Community Health Study/ Study of Latinos (HCHS/SOL) baseline exam (<http://www.csc.unc.edu/hchs/>).

Spiritual well-being Spiritual well-being was measured using the Functional Assessment of Chronic Illness Therapy—

Spiritual Well-Being Scale (FACIT-Sp), a 12-item validated instrument assessing overall spiritual well-being, religious well-being, and existential well-being. The scale measures the extent to which participants experience aspects of Spiritual well-being and consists of two subscales: Faith (i.e., four items assessing an individual's religious/spiritual beliefs) and Meaning/Peace (i.e., eight items assessing an individual's sense of purpose and meaning in life). Participants were asked to rate their agreement on 12 statements on a five-point Likert Scale. The FACIT-Sp has been validated across different cultures, languages, and reading levels [24]. The FACIT-Sp yields an overall score, by summing all the items, and two subscale scores. Higher scores indicate greater spiritual well-being, faith, and meaning/peace, respectively. In the current sample, the FACIT-Sp demonstrated good reliability overall ($\alpha=.87$) and in both English ($\alpha=.88$) and Spanish ($\alpha=.90$).

Depressive symptoms The PHQ-8 is an eight-item screening instrument measuring the occurrence of depressive symptoms in the past 2 weeks using a Likert Scale ranging from 0 (not at all) to 3 (nearly every day). It has been validated with other samples and found to be an effective tool for detecting and monitoring depression in diverse populations [31, 32]. The PHQ-8 is adapted from the PHQ-9; PHQ-8 omits the ninth question that assesses suicidal or self-injurious thoughts because the interviewers were not able to provide adequate psychological intervention. Research indicates that the deletion of this question has only a minor effect on scoring because thoughts of self-harm are fairly uncommon in the general population, and the ninth item is the least frequently endorsed item on the PHQ-9 [33]. In the current sample, the PHQ-8 demonstrated good reliability overall ($\alpha=.91$) and in both English ($\alpha=.87$) and Spanish ($\alpha=.89$). PHQ-8 was treated as a continuous variable, with higher total scores indicating greater depression symptom severity.

Statistical analyses

Descriptive statistics were conducted to describe the sample. Bivariate analyses (i.e., Pearson correlations) examined associations between demographic variables, Spiritual well-being, Faith, and the Meaning/Peace subscale. A hierarchal linear regression analysis was performed to examine the relationship between spiritual well-being (i.e., overall FACIT-Sp score) and depressive symptoms (i.e., PHQ-8 scores) after adjusting for covariates (i.e., age, education, income, cancer stage, and time since diagnosis). Hierarchal linear regression analyses were also conducted to determine the independent contribution of each FACIT-Sp subscale (i.e., Faith and Meaning/Peace) in explaining depressive symptoms and to determine if Meaning/Peace accounted for additional variance in depressive symptoms after adjusting for covariates. All analyses were conducted using IBM SPSS version 20 (IBM Corp., Armonk, NY, USA).

Results

Descriptive statistics

A total of 102 cancer survivors met the eligibility criteria and participated in the study. The participants' mean age was 59.1 years (SD=9.99). As shown in Table 1, the mean scores for depressive symptoms and spiritual well-being were 14.47 (SD=5.65) and 36.22 (SD=9.39), respectively. The scores for depressive symptoms were higher than those reported in other studies with cancer survivors (e.g., Ell et al. [34]). The sample was primarily female (91 %). Forty-five percent of the participants were White/Caucasian, 38 % were Mexican/Mexican American, and the remaining participants were from various ethnic minority groups (see Table 1). Approximately 54 % of the sample was married or living with a partner, and about 54 % of participants had at least some college or university education. Most participants were breast cancer survivors (76.5 %), and 61.8 % were diagnosed as stage I or stage II (not metastasized). Approximately 22 % ($N=22$) of the participants had a survivorship status of 5–10 years and about 11 % ($N=11$) of the participants had been a cancer survivor for 10 years or more (see Table 1).

Bivariate analysis

Table 2 presents the correlations between the socio-demographic and main study variables. Depressive symptoms (i.e., PHQ-8 scores) were positively correlated with cancer stage ($r=.31, p<.01$), indicating that survivors diagnosed at more advanced cancer stages reported more depressive symptoms. Moreover, overall Spiritual well-being ($r=-.41, p<.01$) and Meaning/Peace ($r=-.54, p<.01$) were significantly associated with depressive symptoms. Results showed that higher Spiritual Well-Being scores were associated with less depressive symptoms; and higher Meaning/Peace scores were associated to a lower likelihood of depressive symptoms.

Hierarchal linear regression

Hierarchal linear regression analysis was used to determine whether spiritual well-being (i.e., overall FACIT-Sp scores) would predict depressive symptoms after adjusting for covariates (i.e., age, education, income, cancer stage, and time since diagnosis). As shown in Table 3, this model was statistically significant ($\beta=-.49, p<.001$) and accounted for 34 % of the variance in depressive symptoms. Furthermore, the independent contributions of the FACIT-Sp subscales Faith and Meaning/Peace (entered in separate models) on depressive symptoms, after adjusting for covariates, were found to be independently significant. Specifically, higher levels of Faith ($\beta=-.26, p<.01$) and Meaning/Peace ($\beta=-.59, p<.001$) were associated with lower depressive symptoms. Faith and

Table 1 Participant characteristics

| Characteristic, <i>N</i> =102 | <i>N</i> (%) |
|---|--------------|
| Female | 93 (91.2 %) |
| Ethnicity | |
| Native American | 1 (1.0 %) |
| Asian American | 4 (3.9 %) |
| Mexican/Mexican American | 39 (38.2 %) |
| African American | 2 (2.0 %) |
| White/Caucasian | 46 (45.1 %) |
| South American | 4 (3.9 %) |
| Central American | 3 (2.9 %) |
| Caribbean | 3 (2.9 %) |
| Marital status | |
| Married | 51 (50 %) |
| Living with partner | 3 (3.9 %) |
| Separated | 9 (8.8 %) |
| Divorced | 15 (14.7 %) |
| Widowed | 12 (11.8 %) |
| Never married | 11 (10.8 %) |
| Education | |
| Elementary school | 8 (7.8 %) |
| Middle school | 11 (10.8 %) |
| High school | 19 (18.6 %) |
| Trade/vocational school | 9 (8.8 %) |
| University/college | 55 (53.9 %) |
| Household income (<i>n</i> =87) | |
| <\$10,000–\$29,999 | 39 (38.3) |
| \$30,000–\$50,000 | 18 (17.7 %) |
| \$50,001–\$75,000 | 8 (7.8 %) |
| \$75,001–\$100,000 | 5 (4.9 %) |
| >\$100,000 | 17 (16.7 %) |
| Cancer type | |
| Breast cancer | 78 (76.5 %) |
| Leukemia | 4 (3.9 %) |
| Bone | 1 (1.0 %) |
| Bladder | 2 (2.0 %) |
| Skin | 3 (2.9 %) |
| Colon | 2 (2.0 %) |
| Throat | 1 (1.0 %) |
| Stomach, lung | 1 (1.0 %) |
| Cervical | 2 (2.0 %) |
| Ovarian | 1 (1.0 %) |
| Lymphoma | 5 (4.9 %) |
| Skin, bladder | 1 (1.0 %) |
| Ampullary | 1 (1.0 %) |
| Cancer stage at diagnosis (<i>n</i> =93) | |
| Stage 0 | 6 (5.9 %) |
| Stage 1 | 26 (25.5 %) |
| Stage 2 | 31 (30.4 %) |
| Stage 3 | 19 (18.6 %) |
| Stage 4 | 11 (10.8 %) |

Table 1 (continued)

| Characteristic, <i>N</i> =102 | <i>N</i> (%) |
|---|--------------|
| Years since diagnosis (<i>n</i> =97) | |
| <5 years | 64 (62.7 %) |
| 5–10 years | 22 (21.6 %) |
| >10 years | 11 (10.8 %) |
| Depression symptoms ^a (<i>n</i> =100) | 14.47 (5.65) |
| Spiritual Well-Being ^a (<i>n</i> =98) | 36.22 (9.39) |
| Faith ^a | 11.92 (4.50) |
| Meaning/Peace ^a | 24.29 (5.90) |

^a*M* (SD)

Meaning/Peace accounted for 17 and 44 % of the variance in depressive symptoms, respectively. For all three models, covariates in aggregate accounted for a non-significant amount of variance ($p > .05$); however, there was a main effect of cancer stage on depressive symptoms, with individuals who were diagnosed at more advanced cancer stages reporting more depressive symptoms ($p < .05$; see Table 3).

Additionally, a regression analysis was conducted to determine if Meaning/Peace accounted for additional variance in depressive symptoms beyond that predicted by Faith. The model consisted of three steps in which covariates were entered first, followed by Faith, and lastly Meaning/Peace. As shown in Table 4, Faith significantly accounted for 17 % of the variance in depressive symptoms, after controlling for covariates. The addition of Meaning/Peace, in step three, significantly improved the model; however, the main effect of Faith no longer remained statistically significant ($\beta = 0.21$, $p > .05$). Results showed that higher scores on Meaning/Peace ($\beta = -.71$, $p < .001$) were associated with less depressive symptoms while controlling for covariates and Faith. The final model accounted for 46 % of the variance in depressive symptoms.

Discussion

This study was designed to clarify the equivocal relationship between spiritual well-being and psychological well-being among cancer survivors. Study findings supported the research hypotheses. Specifically, results indicate that spiritual well-being may be an asset to cancer survivors and perhaps serve as a buffer against stress and maladaptive coping. It is noteworthy that both Meaning/Peace and Faith were independently significant of depression symptoms when entered in separate regression models. These findings are consistent with previous studies of similar hypotheses [13, 25–27].

Moreover, Meaning/Peace explained more variance in depressive symptoms than Faith, and only Meaning/Peace was

Table 2 Bivariate correlations between socio-demographics and main study variables

| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|-----------------------|-------|--------|-------|--------|-------|---------|--------|--------|---|
| Age | – | | | | | | | | |
| Education | 0.21* | – | | | | | | | |
| Income | 0.15 | 0.43** | – | | | | | | |
| Cancer stage | –0.05 | –0.20 | 0.09 | – | | | | | |
| Years since diagnosis | 0.07 | –0.05 | 0.12 | –0.02 | – | | | | |
| Depressive symptoms | –0.07 | –0.05 | –0.06 | 0.31** | –0.01 | – | | | |
| Faith | –0.12 | –0.17 | –0.21 | 0.16 | –0.09 | –0.15 | – | | |
| Meaning/Peace | 0.02 | 0.03 | –0.07 | –0.09 | –0.09 | –0.54** | 0.63** | – | |
| Spiritual Well-Being | –0.04 | –0.06 | –0.14 | 0.02 | –0.1 | –0.41** | 0.87** | 0.93** | – |

* $p < .05$; ** $p < .01$

found to be significant in the final model after controlling for covariates and Faith. Findings suggest that Meaning/Peace may have a unique advantage over Faith in protecting cancer survivors from depressive symptoms. Expanding on Lazarus and Folkman’s Stress and Coping Model [30], one potential explanation for this could stem from the spiritual conflict that survivors are vulnerable to if demands exceed perceived resources. For example, an individual may utilize spiritual well-

being coping as an investment of Faith to provide emotional security and fortitude during crisis; that is, religion could represent a promise of health and protection for believers [34]. However, if an individual’s cancer prognosis declines, he or she may struggle to rectify their Faith despite failing health. Hence, Faith may be a less stable coping response than Meaning/Peace in that it is contingent upon the expectation of favorable health outcomes.

Table 3 Hierarchical regression analyses regressing depressive symptoms on Spiritual Well-Being (model 1), Faith (model 2), and Meaning/Peace (model 3)

| Predictor | β | SE | ΔR^2 | F |
|------------------------------|----------|-------|--------------|--------------------|
| Model 1 | | | | |
| Step 1: covariates | | | 10.70 % | $F(5, 69)=1.66$ |
| Age | 0.002 | 0.06 | | |
| Education | 0.04 | 0.48 | | |
| Income | –0.20 | 0.71 | | |
| Cancer stage | 0.36** | 0.49 | | |
| Time since diagnosis | 0.01 | 0.78 | | |
| Step 2: Spiritual Well-Being | –0.49*** | 0.06 | 23.00 % | $F(6, 68)=5.76***$ |
| Model 2 | | | | |
| Step 1: covariates | | | 10.70 % | $F(5, 69)=1.66$ |
| Age | –0.028 | 0.06 | | |
| Education | 0.08 | 0.54 | | |
| Income | –0.18 | 0.80 | | |
| Cancer stage | 0.37* | 0.55 | | |
| Time since diagnosis | 0.04 | 0.88 | | |
| Step 2: Faith | –0.26** | 0.14 | 6.20 % | $F(6, 68)=2.14*$ |
| Model 3 | | | | |
| Step 1: covariates | | | 10.70 % | $F(5, 69)=1.66$ |
| Age | 0.04 | 0.053 | | |
| Education | 0.05 | 0.44 | | |
| Income | –0.18 | 0.65 | | |
| Cancer stage | 0.30* | 0.45 | | |
| Time since diagnosis | –0.01 | 0.72 | | |
| Step 2: Meaning/Peace | –0.59*** | 0.09 | 33.33 % | $F(6, 68)=8.90***$ |

ΔR^2 and F are from model step. All coefficients are from final model step

* $p < .05$; ** $p < .01$; *** $p < .001$

Table 4 Hierarchical multiple regression analysis showing the unique contribution of Meaning/Peace to depressive symptoms

| Predictor | β | SE | ΔR^2 | F |
|-----------------------|----------|------|--------------|-----------------------|
| Step 1: covariates | | | 10.70 % | $F(5, 69)=1.66$ |
| Age | 0.06 | 0.05 | | |
| Education | 0.06 | 0.44 | | |
| Income | -0.15 | 0.65 | | |
| Cancer stage | 0.25** | 0.46 | | |
| Time since diagnosis | -0.02 | 0.71 | | |
| Step 2: Faith | 0.21 | 0.14 | 6.30 % | $F(6, 68)=2.32^*$ |
| Step 3: Meaning/Peace | -0.71*** | 0.11 | 29.30 % | $F(7, 67)=8.24^{***}$ |

ΔR^2 and F are from model step. All coefficients are from final model step
* $p < .05$; ** $p < .01$; *** $p < .001$

Furthermore, Peterman et al. [24] explained that the Faith dimension of the two-factor model of the FACIT-Sp correlates with measures of religiosity, while the Meaning/Peace dimension does not strongly associate with religiosity and rather represents more “existential domains of spirituality” [24]. Perhaps Faith and Meaning/Peace differ in their potential to provide positive psychological adjustment for cancer survivors because they are unique constructs, each with distinctive coping strategies [24]. For instance, Faith may offer reassurance that “everything will be alright” and provide cancer patients hope of good health and recovery. Cancer survivors who employ Faith may justify their suffering as a means to a better end or afterlife. Meaning/Peace, on the other hand, does not carry the same expectation of recompense for cancer distress but instead conveys a message of acceptance of the suffering experience. Cancer survivors may interpret their suffering as an opportunity to achieve positive transformation [35]; suffering may function as a “wake up call” to remind cancer survivors “not to take life for granted” and enjoy life to its fullest [27]. For example, research suggests that a cancer diagnosis may be accompanied by post-traumatic growth [36], described as a positive transformation that occurs following the experience of a traumatic event, such as a cancer diagnosis, and is typically accompanied by beneficial changes (e.g., personal strength, spiritual growth, greater appreciation for life) in a person’s life. Perhaps Meaning/Peace instills cancer survivors with a sense of appreciation for everyday living that uniquely creates value and stimulates potential in maximizing quality of life, particularly psychological well-being.

Findings from this study must be interpreted in light of several limitations. The cross-sectional design makes it impossible to determine causality between the study variables. Given that participants were recruited from cancer support groups and that all participants self-selected themselves to be a part of the study, the potential for bias or “volunteer” bias exists. Also, our sample was comprised largely of participants

who were female (91 %) and breast cancer survivors (77 %), thus limiting the generalizability of findings to the larger cancer survivorship population. In addition, we were only able to examine spiritual well-being data at one measurement time, following the participants’ cancer diagnosis. Although we did not have access to data taken before their cancer diagnosis, findings suggest that at post-diagnosis participants may have gained a new-found importance for spirituality, an aspect of post-traumatic growth [36]. Nevertheless, longitudinal data are needed to gain a better understanding of the influence of spiritual well-being on psychological well-being.

Future research could benefit from including additional measures of spiritual well-being to adequately capture the multidimensional nature of this construct [37] and specifically other domains of spiritual well-being such as relationships with others. In addition, greater research attention should focus on identifying the spiritual needs and possible resources of cancer survivors to better inform interventions aimed and improving quality of life.

Lastly, future research should also consider examining potential differences in the relationship between spiritual well-being and depressive symptoms among ethnic minority populations. Previous studies indicate that ethnic minorities may utilize spiritual well-being coping more than non-Hispanic Whites [38–40]. Thus, the benefits of spiritual well-being coping may vary by racial/ethnic background. Despite these limitations, unique among our study is that the participants ranged from recently diagnosed cancer survivors to longer-term cancer survivors, while most studies focus exclusively on recent survivors.

Conclusions

This study is noteworthy because it provides information on the complex relationship between spiritual well-being and psychological well-being across diverse cancer survivors. Findings identify spiritual well-being as a valuable resource for cancer survivors and provide evidence that Faith- and Meaning/Peace-based coping facilitates adaptive psychological adjustment to cancer as measured by depressive symptoms. Moreover, Meaning/Peace bestows greater safeguards against depressive symptoms than Faith, possibly because of issues surrounding spiritual conflict and the health implications this has on the cancer survivor. Consideration of spiritual well-being in clinical practice is recommended to bolster quality of life in cancer survivors, particularly their psychological well-being. Acknowledgment of spiritual well-being by healthcare providers may facilitate better coping by the patient and overall adjustment. Cancer survivors may benefit from interventions that address unmet spiritual well-being needs by fostering a greater sense of Meaning/Peace that then shields against depressive symptoms.

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