

# The Relationship Between Spiritual Well-Being and General Health in Patients With Cancer: The Mediating Role of Attachment to God

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## ABSTRACT

The aim of this study was to explain the structural model of the relationship between spiritual well-being and general health in patients with cancer, with an emphasis on the mediating role of attachment to God, using a descriptive-correlational research design based on structural equation modeling. The statistical population consisted of patients with cancer in Tehran during 2025–2026, from whom 500 participants were selected through convenience sampling. Data were collected using the Spiritual Well-Being Scale (1982), Attachment to God Inventory (2004), and 28-item General Health Questionnaire (1972) and were analyzed using AMOS software. The findings indicated that spiritual well-being had significant direct effects on attachment to God ( $\beta = -0.45, p < .001$ ) and general health ( $\beta = -0.33, p < .001$ ). In addition, the direct effect of attachment to God on general health was statistically significant ( $\beta = 0.13, p < .05$ ). Furthermore, attachment to God mediated the relationship between spiritual well-being and general health. Overall, the goodness-of-fit indices indicated an adequate fit of the model to the data ( $\chi^2 = 22.50, df = 9, \chi^2/df = 2.50, GFI = .95, AGFI = .92, CFI = .99, RMSEA = .058$ ). In conclusion, spiritual well-being exerts its influence on general health partly through the formation of a secure emotional bond with God, highlighting the importance of incorporating integrative psychotherapeutic interventions into cancer care.

**Key words:** attachment to God, cancer, general health, spiritual well-being

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## Introduction

Cancer remains one of the most consequential health challenges worldwide because its effects extend far beyond malignant cellular processes and encompass profound psychological, social, existential, and spiritual consequences. Although advances in screening, diagnosis, surgery, radiotherapy, chemotherapy, targeted therapies, and immunotherapy have improved survival for many forms of cancer, patients continue to face a complex burden of symptoms, uncertainty, fear of recurrence, disruption of family and occupational roles, and concerns about suffering and mortality. Accordingly, contemporary psycho-oncology increasingly

conceptualizes cancer as a multidimensional condition in which general health is shaped not only by disease severity and treatment-related complications but also by patients' psychological resources, existential interpretations, and spiritual frameworks. General health in this context refers broadly to the individual's physical, psychological, and social functioning, including somatic symptoms, anxiety, depressive symptoms, and social dysfunction. These dimensions are particularly vulnerable during cancer diagnosis and treatment because the disease can undermine patients' sense of predictability, autonomy, coherence, and meaning. Recent evidence has therefore emphasized the importance of examining protective psychological and spiritual factors that may help patients adapt more effectively to the demands of cancer and its treatment. Spirituality has emerged as one such factor because it may provide meaning, hope, connectedness, transcendence, and a framework for interpreting suffering, thereby contributing to psychological adaptation and quality of life in oncology populations (1-3).

Spiritual well-being is commonly regarded as a multidimensional construct involving a sense of meaning, purpose, connectedness, inner integration, and, for religious individuals, a perceived relationship with a transcendent reality or God. Within the influential conceptualization of spiritual well-being, religious well-being reflects the perceived quality of one's relationship with God, whereas existential well-being refers to meaning, life satisfaction, purpose, and a sense of coherence in relation to oneself and the world. This distinction is especially relevant in cancer because the disease may challenge both dimensions simultaneously. Patients may question why the illness occurred, reconsider previously held assumptions about justice or divine protection, experience spiritual struggle, or conversely develop greater spiritual depth and existential clarity. In this sense, spiritual well-being should not be reduced to formal religious practice; rather, it reflects a broader psychological resource that may shape emotional regulation, coping, interpersonal functioning, and perceptions of health. Empirical studies among patients with cancer increasingly indicate that higher levels of spiritual well-being are associated with better quality of life, greater resilience, reduced death anxiety, and more adaptive psychological adjustment. For example, spiritual well-being has been associated with better quality of life among patients with breast cancer, while stronger spiritual resources have also been linked to lower death anxiety and greater resilience in cancer populations (3, 4). These findings suggest that spiritual well-being may contribute to general health by helping patients regulate distress and maintain psychological equilibrium despite the ongoing burden of illness.

The relevance of spirituality in oncology is further supported by intervention research. Spiritual and meaning-centered interventions are increasingly incorporated into supportive cancer care because they address concerns that conventional symptom-focused treatments may not fully resolve. A systematic review and meta-analysis of randomized controlled trials showed that meaning-oriented therapies can improve spirituality, psychological health, and quality of life among patients with cancer, indicating that existential and spiritual processes may be modifiable therapeutic targets (2). Similarly, a randomized clinical trial among women with breast cancer demonstrated that spiritual group therapy was effective in enhancing quality of life and empowerment, reinforcing the clinical relevance of structured spiritual interventions in oncology care (5). A meta-analysis of studies conducted in Iran likewise reported beneficial effects of spiritual-religious interventions on mental health and quality of life in patients with cancer, highlighting the importance of culturally embedded spiritual resources in settings where religion occupies a central place in

personal and family life (6). The relationship between spirituality and cancer adjustment may also extend to psychophysiological domains. Reviews concerning breast cancer have proposed that spiritual health and meditative practices may support psychological regulation and possibly influence immune-related processes through stress reduction and improved neuroendocrine balance, although such mechanisms require careful interpretation and further empirical testing (7). Collectively, this literature supports spiritual well-being as a potentially important determinant of health-related adaptation in cancer.

The influence of spirituality may be especially important in relation to pain and symptom interpretation. Cancer-related pain is not experienced solely as a sensory phenomenon; rather, it is also shaped by emotional, cognitive, interpersonal, and existential factors. Recent research among post-treatment cancer patients has shown that spirituality may be associated with pain partly through meaning in life and coping strategies, suggesting that the psychological significance assigned to illness and suffering can influence patients' health experiences (8). This finding is consistent with broader models of spiritual coping, in which spirituality may facilitate acceptance, adaptive appraisal, hope, and a sense that suffering can be integrated into a meaningful life narrative. These processes may subsequently reduce emotional distress and support better functioning. In contrast, when spiritual assumptions are destabilized, illness may produce spiritual distress, perceived abandonment, or conflict with God, potentially exacerbating anxiety and depressive symptoms. The implication is that spiritual well-being does not operate mechanically; rather, its influence on general health may depend on the quality of the person's internalized relationship with the sacred. This possibility is particularly important in religious populations, where beliefs about God may serve as powerful attachment-related schemas during periods of fear, dependency, and vulnerability.

Attachment theory offers a useful framework for explaining how a relationship with God may mediate the association between spiritual well-being and general health. Classical attachment theory proposes that individuals develop internal working models concerning the accessibility, responsiveness, and reliability of significant attachment figures. These models influence emotional regulation, responses to threat, and expectations of support. Contemporary psychology of religion has extended this framework to the religious domain by proposing that God may function psychologically as an attachment figure for believers. From this perspective, individuals may seek proximity to God under conditions of stress, perceive God as a secure base from which to cope with adversity, and rely on the perceived divine relationship as a source of comfort and safety. Granqvist et al. emphasized that attachment processes can illuminate important aspects of religion and spirituality, particularly the ways in which beliefs about divine availability and responsiveness become integrated into emotional regulation systems (9). Secure attachment to God is generally characterized by trust, perceived divine availability, and low levels of anxiety and avoidance, whereas insecure attachment may involve fear of rejection by God, uncertainty about divine love, or avoidance of closeness with God. These attachment orientations may have significant consequences for psychological health when individuals face serious illness.

The concept of attachment to God has received increasing attention because it appears to be related to multiple indicators of mental health and psychological adaptation. Individuals who experience God as available, accepting, and emotionally responsive may be better able to regulate distress, maintain hope, and recover from stressful experiences. By contrast, an anxious or avoidant attachment to God may be associated with uncertainty, spiritual conflict, and difficulties using religious beliefs as an effective coping resource.

Research in different populations has supported these associations. Aydın found that spiritual attachment was meaningfully related to mental health through self-forgiveness, suggesting that attachment to God may influence well-being through intrapersonal regulatory mechanisms (10). Attachment to God has also been associated with resilience, patience, optimism, socio-emotional well-being, and adaptive coping, indicating that the divine relationship may serve as a psychological resource extending across multiple domains of functioning (11-14). These findings are relevant to cancer because resilience, optimism, patience, and emotion regulation are all central to adaptation under prolonged medical stress.

Attachment to God may also be understood as one of the mechanisms through which spiritual well-being acquires psychological significance. High spiritual well-being may strengthen the perception that God is accessible and benevolent, thereby reducing attachment anxiety and avoidance and providing a more stable source of security during illness. Conversely, a person may endorse religious beliefs or practices while still experiencing an insecure divine attachment characterized by fear, distance, or perceived rejection. This distinction may explain why spirituality is not uniformly associated with positive mental health outcomes. For some individuals, spirituality provides emotional security and meaning; for others, unresolved religious conflict may intensify distress. Studies among students have shown that spiritual health is related to attachment to God and optimism, while spiritual intelligence and perceptions of God have also been linked to patterns of attachment to God (13, 15). These findings suggest that attachment to God is not simply another expression of religiosity but a relational construct through which broader spiritual beliefs may become emotionally and behaviorally consequential.

The mental-health implications of attachment to God are also evident in studies of stress, anxiety, and self-regulation. Among religious minorities during the COVID-19 pandemic, attachment and religiosity were associated with perceived stress, with the cultural context influencing these relationships, thereby demonstrating that religious attachment may shape stress appraisal under conditions of uncertainty and threat (16). In other populations, attachment to God has been related to lower death anxiety and greater psychological hardiness, both of which are highly relevant in the context of cancer and life-threatening disease (17). Attachment to God has also been associated with coping styles and self-control in patients with diabetes, suggesting that the perceived divine relationship may facilitate behavioral and emotional self-regulation in chronic illness (18). Among students, attachment styles to God have been examined in relation to emotional self-regulation, self-compassion, and addictive mobile-phone behavior, again indicating that divine attachment may be related to broader systems of affective and behavioral regulation (19). Although these studies were not conducted specifically in oncology populations, they provide a coherent theoretical basis for expecting that attachment to God may influence the general health of individuals facing cancer-related stress.

Clinical and psychotherapeutic perspectives further support the potential importance of secure attachment to God. Hollman and Marmarosh proposed that psychotherapy may help facilitate a secure attachment to God by providing relational experiences that support trust, safety, and a more adaptive representation of the divine (20). This proposition is clinically important because individuals with serious illness frequently encounter intense dependency needs, helplessness, and fear of abandonment, all of which may activate attachment systems. If the patient's relationship with God functions as a secure attachment, spiritual beliefs may provide a stable emotional anchor. If that attachment is insecure, however, serious

illness may intensify fears that God is distant, rejecting, punitive, or unavailable. Thus, the quality of attachment to God may help explain why two individuals with comparable levels of religious involvement can have very different psychological responses to cancer. One person may derive reassurance and security from religious belief, whereas another may experience spiritual anxiety or avoidance. The mediating role of attachment to God is therefore theoretically plausible because spiritual well-being may influence general health partly by shaping the emotional security embedded in the divine relationship.

Research linking attachment to God directly with well-being also provides support for this mediational hypothesis. Ilbeigy Ghalenei et al. reported that spiritual health and attachment to God predicted quality of life, suggesting that these constructs may operate jointly in explaining psychological adaptation (21). Similarly, research on socio-emotional well-being found that attachment to God was associated with better emotional functioning, consistent with the assumption that divine attachment may contribute to emotional security and adaptive interpersonal functioning (14). Studies on patience and resilience have likewise shown that attachment to God is meaningfully associated with adaptive psychological capacities that may buffer stress (11, 12). Moreover, associations between attachment to God and optimism suggest that individuals who experience the divine as dependable may be more likely to expect favorable outcomes and maintain positive future-oriented beliefs during adversity (13). In the context of cancer, these processes may be especially important because uncertainty about prognosis, recurrence, treatment response, and physical decline can undermine psychological stability.

Despite the growing literature on spirituality, attachment to God, and psychological health, important gaps remain. Much of the available evidence has examined spirituality and health as direct associations, or has investigated attachment to God in student, elderly, divorced, or chronic-disease populations rather than specifically among patients with cancer. Although studies in oncology have demonstrated meaningful relationships between spiritual well-being and quality of life, psychological resilience, death anxiety, and responses to spiritual interventions, fewer studies have tested explanatory mechanisms linking spiritual well-being to multidimensional general health outcomes (1, 4, 6). Furthermore, general health is broader than quality of life and incorporates clinically relevant indicators such as somatic complaints, anxiety, depressive symptoms, and social dysfunction. Examining these dimensions within a structural model can provide a more precise understanding of how spiritual variables become associated with psychological and functional outcomes in cancer populations. Such an approach is particularly valuable because it allows simultaneous estimation of direct and indirect effects and can clarify whether attachment to God functions as a psychological pathway connecting spiritual well-being with general health.

The cultural context of the present study also strengthens the need for such investigation. In societies where religious beliefs are deeply integrated into personal identity, family relationships, interpretations of illness, and coping practices, attachment to God may represent a particularly salient psychological mechanism. Iranian studies have documented associations between attachment to God and psychological hardiness, death anxiety, optimism, resilience, patience, quality of life, and spiritual health, indicating that the construct has relevance within this cultural context (11, 13, 17, 21). At the same time, the positive outcomes of spiritual-religious interventions among Iranian patients with cancer indicate that spirituality is clinically meaningful in oncology care in this population (5, 6). However, the precise relational mechanism by which spiritual well-being may influence general health among Iranian patients with cancer remains

insufficiently clarified. Testing attachment to God as a mediator may therefore contribute both theoretically and clinically by linking spiritual health research with attachment theory and psycho-oncology.

In summary, spiritual well-being appears to be an important psychological resource for individuals coping with cancer, while attachment to God may determine whether spiritual beliefs are experienced as emotionally secure, supportive, and adaptive under conditions of severe stress. The available literature suggests that spirituality can enhance quality of life, psychological resilience, empowerment, meaning, and coping, whereas secure attachment to God may support self-regulation, optimism, patience, socio-emotional well-being, and lower anxiety in stressful contexts (3, 5, 8, 10). At the same time, attachment-based and psychotherapy perspectives indicate that the perceived divine relationship may serve as a secure base during periods of vulnerability, making it a plausible mediator between broader spiritual well-being and general health (9, 20). Integrating these findings within a structural equation model can therefore advance understanding of the mechanisms through which spiritual well-being relates to physical, emotional, and social aspects of health among patients with cancer.

Accordingly, the aim of the present study was to examine the structural relationship between spiritual well-being and general health in patients with cancer, with attachment to God as a mediating variable.

## Methods and Materials

### *Study Design and Participants*

The present study employed a descriptive-correlational design and was fundamental in terms of its research purpose because it focused on expanding the boundaries of knowledge in the fields of health psychology and spirituality (Kline, 2023). The objective of the study was to examine the relationship between spiritual well-being and general health in patients with cancer, with attachment to God serving as a mediating variable within a structural model. Accordingly, structural equation modeling (SEM) was used to test the proposed model.

The statistical population consisted of all patients with cancer who attended specialized cancer treatment centers and hospitals affiliated with Tehran University of Medical Sciences during 2025–2026. The inclusion criteria were a confirmed diagnosis of cancer documented in the patient's medical record, an age between 25 and 75 years, an interval of 6 months to 2 years since cancer diagnosis, sufficient cognitive ability to complete the questionnaires, willingness to participate, and provision of written informed consent. Patients with severe psychiatric disorders or an inability to comprehend the questionnaire items were excluded from the study.

Convenience sampling was employed in this study. Accordingly, all eligible patients who attended the participating centers during the data-collection period were invited to participate after being informed about the purpose of the study and providing informed consent. Given the clinical limitations and physical conditions of patients with cancer, convenience sampling was considered the most practical approach for data collection. To determine the sample size, the recommendations proposed by Kline (2015) were considered. Given that the conceptual model comprised latent constructs, direct and indirect effects, and mediation relationships, a sample larger than the minimum recommended size was selected. A total of 525 questionnaires were collected, and after data screening and removal of invalid responses, 500 questionnaires were retained for the final analysis.

### *Data Collection Tools*

**Spiritual Well-Being Scale (SWBS).** The Spiritual Well-Being Scale, developed by Paloutzian and Ellison (1982), is a well-established instrument for assessing spiritual well-being. The scale consists of 20 items and two subscales, Religious Well-Being and Existential Well-Being. Items are scored on a 6-point Likert-type scale ranging from strongly disagree to strongly agree. Numerous studies have confirmed the strong reliability and validity of this instrument. For example, Bufford et al. (1991) reported Cronbach's alpha coefficients ranging from .82 to .94 for the total score and from .78 to .91 for the subscales. In Iranian studies, Abdollahzadeh et al. (2009) also confirmed the reliability of the instrument, reporting Cronbach's alpha coefficients of .89 for the total score, .85 for Religious Well-Being, and .82 for Existential Well-Being.

**Attachment to God Inventory (AGI).** The Attachment to God Inventory was developed by Beck and McDonald (2004) to assess the quality of an individual's relationship with God based on attachment theory. It consists of 28 items encompassing two subscales: Avoidance of Intimacy With God and Anxiety About Rejection by God. Participants respond to each item on a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). In the original validation study, Cronbach's alpha coefficients for the subscales ranged from .85 to .92, and confirmatory factor analysis supported the proposed two-factor structure. In Iran, Ghobari Bonab and Haddadi Koohsar (2011) also reported satisfactory validity and reliability for the scale. In the present study, the Cronbach's alpha coefficient for the questionnaire was .78.

**General Health Questionnaire-28 (GHQ-28).** The General Health Questionnaire, originally developed by Goldberg (1972), is a screening instrument designed to assess general health status. The 28-item version comprises four subscales: Somatic Symptoms, Anxiety, Social Dysfunction, and Depression, each consisting of seven items. Items are scored using a Likert-type scoring method ranging from 0 to 3, with higher scores indicating poorer general health and a greater severity of symptoms. Goldberg and Williams (1988) reported a split-half reliability coefficient of .95 for the questionnaire. In Iran, Taghavi (2001) reported reliability coefficients of .93 for test-retest reliability, .70 for split-half reliability, and .90 for Cronbach's alpha, together with a validity coefficient of .55. In the present study, the Cronbach's alpha coefficient for the questionnaire was .79.

### *Data Analysis*

To comply with ethical principles in research, the objectives and nature of the study were clearly explained to all participants, written informed consent was obtained from each participant, and the confidentiality of information and voluntary nature of participation were emphasized. The collected data were used exclusively for research purposes, and no names or other identifying information were recorded on the questionnaires. The study received ethical approval from the Faculty of Psychology and Educational Sciences, University of Tehran, under ethics code IR.UT.PSYEDU.REC.1404.043. Data were analyzed using structural equation modeling with AMOS version 27.

### **Findings and Results**

In this study, demographic and clinical characteristics of the participants, including age, gender, marital status, educational level, type of cancer, and disease stage, were collected. Descriptive statistics indicated that the participants were between 25 and 75 years of age, with a mean age of approximately 47 years.

Regarding gender, 59% of the participants were women and 41% were men. In terms of marital status, 63% were married, 22% were single, and 15% were divorced or widowed. Examination of educational attainment indicated that 29% had a high school diploma or lower level of education, 38% held a bachelor's degree, and 33% had a master's degree or higher. Regarding cancer type and disease stage, breast cancer was the most prevalent diagnosis (30%), and the greatest proportion of participants were in an early stage of the disease (46%).

Table 1 presents the descriptive statistics, including means and standard deviations, and the correlation matrix among the study variables, including the dimensions of spiritual well-being (religious and existential well-being), attachment to God (anxiety about rejection by God and avoidance of intimacy with God), and general health dimensions (somatic symptoms, anxiety, social dysfunction, and depression) among patients with cancer.

**Table 1. Correlation Matrix, Descriptive Statistics, and Cronbach's Alpha Coefficients for the Study Variables**

| Variable                          | M     | SD    | 1 | 2     | 3      | 4      | 5      | 6      | 7      | 8      | Cronbach's $\alpha$ |
|-----------------------------------|-------|-------|---|-------|--------|--------|--------|--------|--------|--------|---------------------|
| 1. Religious well-being           | 35.71 | 7.55  | 1 | .46** | -.45** | -.33** | -.39** | -.36** | -.31** | -.28** | .70                 |
| 2. Existential well-being         | 37.24 | 8.36  |   | 1     | -.37** | -.24** | -.18** | -.19** | -.17** | -.12** | .79                 |
| 3. Anxiety about rejection by God | 49.23 | 14.51 |   |       | 1      | -.77** | .35**  | .29**  | .34**  | .30**  | .80                 |
| 4. Avoidance of intimacy with God | 45.62 | 14.68 |   |       |        | 1      | .25**  | .31**  | .39**  | .37**  | .81                 |
| 5. Somatic symptoms               | 16.07 | 6.60  |   |       |        |        | 1      | .72**  | .66**  | .56**  | .80                 |
| 6. Anxiety                        | 10.59 | 5.96  |   |       |        |        |        | 1      | .66**  | .63**  | .82                 |
| 7. Social dysfunction             | 6.71  | 3.82  |   |       |        |        |        |        | 1      | .62**  | .80                 |
| 8. Depression                     | 4.55  | 2.77  |   |       |        |        |        |        |        | 1      | .77                 |

As shown in Table 1, the results indicated significant correlations between the dimensions of spiritual well-being and insecure attachment to God, including attachment anxiety and attachment avoidance, as well as with the dimensions of general health, namely somatic symptoms, anxiety, social dysfunction, and depression. Furthermore, avoidant and anxious attachment to God were significantly correlated with the dimensions of general health. In addition, the internal consistency coefficients for the study variables, calculated using Cronbach's alpha, ranged from .70 to .82.

Prior to conducting structural equation modeling, the data were screened and the relevant statistical assumptions were examined according to the recommendations of Kline (2015) and Meyers et al. (2016). Univariate normality was evaluated using skewness and kurtosis statistics. The normality of residuals was assessed using a normal probability plot of the standardized residuals for the general health criterion variable. Multicollinearity was examined using tolerance statistics and variance inflation factors (VIFs). Finally, the assumption of homoscedasticity was assessed using a scatterplot of standardized predicted values against standardized residuals for the general health criterion variable. The results supported all of these assumptions.

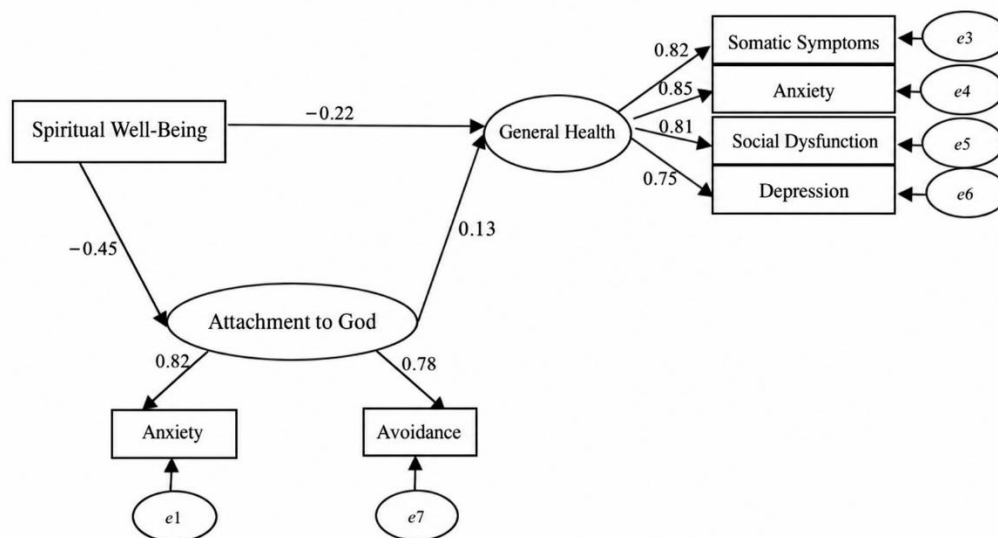
Subsequently, structural equation modeling was used to explain variability in the latent general health construct among patients with cancer based on spiritual well-being, with attachment to God, represented by avoidant and anxious attachment dimensions, functioning as the mediator. The goodness-of-fit indices for the hypothesized model were evaluated based on the criteria proposed by Meyers et al. (2016). Specifically,

a  $\chi^2/\text{df}$  value below 3, a root mean square error of approximation (RMSEA) value below .08, and goodness-of-fit index (GFI) and adjusted goodness-of-fit index (AGFI) values above .90 were considered indicative of an acceptable fit between the proposed model and the observed data. The structural model fit indices included chi-square ( $\chi^2$ ), the chi-square to degrees-of-freedom ratio ( $\chi^2/\text{df}$ ), comparative fit index (CFI), goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), and root mean square error of approximation (RMSEA). The corresponding values were 22.50, 2.50, .99, .95, .92, and .058, respectively, indicating an adequate fit of the model to the data (Table 2).

**Table 2. Goodness-of-Fit Indices for the Hypothesized Model in Patients With Cancer**

| Model          | $\chi^2$ | df | $\chi^2/\text{df}$ | GFI | AGFI | CFI | RMSEA |
|----------------|----------|----|--------------------|-----|------|-----|-------|
| Proposed model | 22.50    | 9  | 2.50               | .95 | .92  | .99 | .058  |

Figure 1 presents the results for the prediction of general health based on spiritual well-being, with attachment to God serving as the mediator among patients with cancer. Moreover, in the hypothesized partial mediation model (Figure 1), all path coefficients among the variables were statistically significant ( $p < .05$ ).



**Figure 1. Partial Mediation Model of Attachment to God in the Relationship Between Spiritual Well-Being and General Health Among Patients With Cancer**

In the present study, bootstrapping was used to determine the statistical significance of the indirect effect of spiritual well-being on general health among patients with cancer. The findings indicated that the indirect effect of spiritual well-being on general health through attachment to God, including avoidance of intimacy with God and anxiety about rejection by God, was statistically significant (Table 3). As shown in Table 3, the confidence interval did not include zero; therefore, the indirect effect of spiritual well-being on general health through attachment to God was statistically significant.

**Table 3. Bootstrap Results for the Indirect Path**

| Indirect Path                                             | 95% CI Lower Bound | 95% CI Upper Bound | P    |
|-----------------------------------------------------------|--------------------|--------------------|------|
| Spiritual well-being → Attachment to God → General health | -.160              | -.004              | .031 |

## Discussion and Conclusion

The present study examined the structural relationship between spiritual well-being and general health in patients with cancer, with attachment to God considered as a mediating mechanism. The findings supported the proposed model and showed that spiritual well-being was significantly associated with both attachment to God and general health. In addition, attachment to God had a significant direct relationship with general health, and the indirect pathway from spiritual well-being to general health through attachment to God was statistically significant. The adequacy of the overall structural model was further supported by the fit indices, including  $\chi^2/df = 2.50$ , GFI = .95, AGFI = .92, CFI = .99, and RMSEA = .058. Taken together, the findings suggest that spiritual well-being is related to better general health among patients with cancer not only through a direct pathway but also through the quality of patients' emotional relationship with God. This pattern is theoretically meaningful because spiritual well-being may provide patients with a sense of purpose, coherence, hope, and transcendence, while secure attachment to God may transform those spiritual resources into an emotionally accessible source of safety, support, and regulation during the experience of serious illness.

One of the main findings was that higher spiritual well-being was associated with better general health. Given that higher GHQ-28 scores reflect poorer general health, the negative direct path from spiritual well-being to general health symptoms indicates that patients with stronger spiritual well-being reported fewer somatic complaints, less anxiety, lower depressive symptomatology, and less social dysfunction. This finding is consistent with studies showing that spirituality can function as an important psychological resource in cancer care. Tsoho and Soyler found that spiritual well-being was positively related to quality of life in patients with breast cancer, suggesting that patients who maintain a stronger sense of spiritual meaning and connectedness may experience more adaptive adjustment to the burden of cancer (3). Similarly, Turan and Dural reported that spiritual well-being was associated with lower death anxiety and greater psychological resilience in patients with cancer, indicating that spiritual resources may reduce existential fear and strengthen the capacity to cope with illness-related stress (4). These results are compatible with the current findings because anxiety, depressive symptoms, and impaired functioning are often intensified when patients experience hopelessness, existential uncertainty, and fear of mortality. Spiritual well-being may counter these processes by helping individuals interpret illness within a broader framework of meaning and continuity.

The present result also aligns with intervention-based evidence. Sun et al. showed in a systematic review and meta-analysis that meaning-oriented interventions can improve spirituality, psychological health, and quality of life in patients with cancer (2). Their findings support the idea that meaning and spirituality are not merely background beliefs but modifiable factors that can influence psychological outcomes. Likewise, Momennasab et al. demonstrated that spiritual group therapy improved quality of life and empowerment among women with breast cancer (5). The convergence between these intervention studies and the present structural findings suggests that spiritual well-being may contribute to general health by enhancing cognitive and emotional processes such as acceptance, hope, perceived control, and inner coherence. In patients with cancer, these processes may reduce psychological distress and improve the ability to adapt to treatment demands, physical symptoms, and disruptions in daily functioning.

The current findings are also consistent with the meta-analytic evidence reported by Geravand et al., who found that spiritual-religious interventions were effective in improving mental health and quality of life among patients with cancer in Iran (6). This is especially relevant to the current study because both were conducted within a cultural context in which religious beliefs may constitute a central source of meaning and coping. In such contexts, spiritual well-being may operate through culturally familiar cognitive and relational frameworks, including trust in divine providence, prayer, religious hope, acceptance of uncertainty, and a sense of being supported by a transcendent attachment figure. In addition, Mohammadi-Yeganeh et al. emphasized the possible contribution of spiritual health and meditation to psychological and physiological adaptation in breast cancer (7). Although causal physiological mechanisms should be interpreted cautiously, the broader implication is consistent with the present findings: spiritual well-being may affect health through interconnected psychological, behavioral, and stress-regulatory pathways.

Another important finding was the significant association between spiritual well-being and attachment to God. Higher spiritual well-being was related to lower insecure attachment tendencies toward God. This pattern is conceptually consistent with attachment-based models of religion. According to Granqvist et al., God may function psychologically as an attachment figure, especially during situations involving fear, threat, dependency, and uncertainty (9). Individuals who perceive God as emotionally available, supportive, responsive, and non-rejecting may experience greater security in their spiritual life. Conversely, anxious attachment to God may involve fear of divine rejection or abandonment, whereas avoidant attachment may involve discomfort with closeness to God or reluctance to rely on the divine relationship. In the context of cancer, these differences may become particularly salient because illness activates concerns about mortality, vulnerability, and dependency. Thus, patients with higher spiritual well-being may be more likely to experience God as a secure relational base rather than as a distant or rejecting figure.

The present finding is also consistent with Baratpour and Naderi, who reported meaningful relationships among spiritual intelligence, moral intelligence, image of God, and attachment to God (15). Their findings support the view that attachment to God is embedded within broader cognitive and spiritual representations of the divine. Similarly, ZahedBabolan et al. found that attachment to God and spiritual health were related to optimism (13). Optimism may be particularly relevant in cancer because a secure spiritual relationship can facilitate positive expectations, trust, and persistence under conditions of uncertainty. These processes may help explain why spiritual well-being was associated with less insecure attachment to God in the present study. When patients experience their spiritual life as meaningful and coherent, they may be less likely to interpret illness as evidence of rejection, abandonment, or divine unavailability.

The results further showed that attachment to God was significantly associated with general health. Patients with more insecure forms of attachment to God had poorer general health. This finding is consistent with a growing body of research linking attachment to God with emotional regulation and psychological functioning. Aydın found that attachment to God was related to mental health through self-forgiveness, suggesting that secure spiritual attachment may influence well-being by facilitating adaptive emotional processing (10). The relevance of this mechanism to cancer is substantial. Cancer can generate guilt, regret, fear, uncertainty, and self-blame, and a secure relationship with God may foster compassion, acceptance, and self-forgiveness, thereby reducing psychological distress. In contrast, anxious attachment to God may

amplify fears of punishment or abandonment, whereas avoidant attachment may reduce the individual's willingness to seek spiritual comfort when distressed.

The association between attachment to God and general health also aligns with Aghajani et al., who reported that attachment to God and psychological hardiness were related to death anxiety (17). Because fear of death is often activated in cancer, especially during diagnosis, recurrence, or progression, a secure divine attachment may reduce distress by providing a sense of safety and continuity. Similarly, Schwaiger et al. demonstrated that attachment and religiosity were related to perceived stress during the COVID-19 pandemic, emphasizing the role of religious attachment under conditions of threat and uncertainty (16). Although the stressor in that study differed from cancer, the psychological principle is comparable: under conditions of threat, attachment systems become activated, and the perceived availability of attachment figures can influence stress responses. For religious individuals, God may serve as one such attachment figure.

The current findings are also compatible with research examining attachment to God in relation to coping, resilience, and adaptive behavior. Azizi et al. reported that attachment to God was related to self-control through coping styles among patients with diabetes (18). This suggests that attachment to God may influence health partly through coping regulation. In cancer, adaptive coping is crucial because patients must manage treatment schedules, uncertainty, side effects, interpersonal changes, and emotional distress over prolonged periods. Ranjbar et al. also found that attachment to God was related to resilience and patience (11, 12). These resources may help patients tolerate uncertainty and maintain emotional stability. Similarly, Rahiminejad et al. showed that attachment to God was associated with socio-emotional well-being (14). This is particularly relevant to the GHQ-28 domain of social dysfunction, as secure spiritual attachment may indirectly support social engagement by reducing anxiety and strengthening emotional regulation.

The mediating effect of attachment to God represents the most important theoretical contribution of the present study. The results showed that spiritual well-being was associated with general health partly through attachment to God. In other words, spiritual well-being may improve general health not simply because patients hold spiritual beliefs, but because those beliefs are organized within a secure emotional relationship with God. This distinction is important. Spirituality that is experienced in abstract or ritual terms may not necessarily produce psychological protection. By contrast, spirituality characterized by trust, emotional closeness, perceived responsiveness, and low fear of rejection may become an effective regulatory resource. Hollman and Marmarosh emphasized the concept of providing a secure base and proposed that psychotherapy may facilitate a more secure attachment to God (20). The present findings extend this perspective by suggesting that the quality of attachment to God may be one of the pathways through which spiritual well-being becomes associated with broader mental and general health in patients with cancer.

This mediational interpretation is also supported by Ilbeigy Ghalenei et al., who found that spiritual health and attachment to God were associated with quality of life (21). Their findings suggest that these constructs may operate together rather than independently. Likewise, Porzoor and Hajipour reported that attachment styles to God were associated with emotional self-regulation and self-compassion-related processes (19). These emotional regulation mechanisms may help explain the indirect pathway identified in the present study. A patient with strong spiritual well-being may experience greater meaning and connectedness; if these experiences also strengthen secure attachment to God, the patient may become better

able to regulate anxiety, reduce rumination, tolerate uncertainty, and maintain social functioning. Through these processes, general health may improve.

The findings also accord with research emphasizing meaning and coping in cancer. Krok et al. found that spirituality was related to pain among post-treatment cancer patients through meaning in life and pain coping strategies (8). Although their mediators differed from attachment to God, the conceptual pattern is similar: spirituality appears to influence health outcomes through intermediate psychological processes rather than only through direct effects. The present study therefore contributes to a broader process-oriented understanding of spirituality in psycho-oncology. Rather than treating spirituality as a unitary protective variable, the results indicate that its influence may depend on how it shapes internal relational schemas, emotional security, coping strategies, and meaning-making processes.

The findings may also help clarify why spirituality is not uniformly beneficial for all patients. Neves et al., in their systematic review of spirituality in prostate cancer, emphasized the complexity of spiritual experiences and their potential relevance to coping and quality of life (1). Spirituality may be protective when it is associated with meaning, hope, and supportive religious relationships, but it may become distressing when accompanied by fear, guilt, abandonment concerns, or negative religious coping. The current findings are compatible with this distinction because attachment to God differentiated between secure and insecure relational processes. In this regard, the significant mediation effect suggests that interventions focused only on increasing religious activity may be insufficient unless they also consider the emotional quality of the patient's relationship with God.

The structural model therefore has implications for both theory and clinical practice. Theoretically, it integrates spiritual well-being with attachment theory and general health within a single explanatory framework. Clinically, it suggests that spiritual assessment in cancer care should extend beyond asking whether a patient is religious or spiritually oriented. Clinicians may need to explore how the patient experiences God emotionally, whether the divine relationship is associated with trust or fear, and whether spiritual beliefs function as a source of security or distress. This approach is consistent with evidence that spiritual interventions, meaning-based therapies, and spiritually informed group programs can support psychological adaptation in cancer (2, 5, 6). Overall, the present findings support a model in which spiritual well-being contributes to better general health partly by fostering a more secure attachment to God, thereby strengthening emotional regulation and adaptation to cancer-related stress.

The present study has several limitations that should be considered when interpreting the findings. First, the cross-sectional correlational design prevents firm conclusions regarding causal direction, even though the structural model was theoretically specified. Second, convenience sampling from treatment centers in Tehran may limit the generalizability of the findings to patients from other regions, cultural backgrounds, religious traditions, or healthcare settings. Third, all variables were assessed using self-report questionnaires, which may increase the influence of social desirability, response style, and shared-method variance. Fourth, patients with different cancer types and disease stages were analyzed together, although the psychological and spiritual burden of cancer may vary substantially according to diagnosis, prognosis, treatment intensity, pain severity, recurrence status, and functional impairment. Fifth, the present model did not include other potentially important variables such as religious coping, meaning in life, social support,

illness perception, resilience, or perceived prognosis, all of which may affect the relationships among spiritual well-being, attachment to God, and general health.

Future studies should use longitudinal and prospective designs to determine whether spiritual well-being predicts subsequent changes in attachment to God and general health across different phases of cancer diagnosis, treatment, survivorship, and recurrence. Research should also test the model in larger multicenter samples and compare patients according to cancer type, disease stage, gender, age, religious orientation, and treatment status. Experimental and intervention studies could evaluate whether spiritually integrated psychotherapy or attachment-focused spiritual interventions can reduce attachment anxiety and avoidance toward God and, in turn, improve psychological and general health outcomes. Future models should also consider multiple mediators and moderators, including meaning in life, religious coping, resilience, self-forgiveness, hope, perceived social support, and illness acceptance, to determine whether attachment to God operates independently or as part of a broader network of spiritual and psychological mechanisms.

In practice, psycho-oncology services may benefit from incorporating systematic assessment of spiritual well-being and attachment to God into routine psychological evaluation when such themes are personally relevant to the patient. Mental health professionals working with patients with cancer can explore whether spiritual beliefs function as sources of security, hope, and meaning or whether they are associated with fear, guilt, perceived abandonment, or avoidance. Psychotherapeutic interventions may be strengthened by integrating meaning-centered, attachment-informed, and spiritually sensitive techniques while respecting each patient's personal beliefs and preferences. Multidisciplinary oncology teams may also consider collaboration with trained spiritual-care professionals when patients request such support. Interventions should focus not merely on increasing religious practices but on promoting emotional security, adaptive meaning-making, self-compassion, hope, and a supportive relationship with personally meaningful spiritual resources.

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## **Authors' Contributions**

All authors equally contributed to this study.

## **Declaration of Interest**

The authors of this article declared no conflict of interest.

## **Ethical Considerations**

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

## **Transparency of Data**

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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