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Prediction of Hope Based on Forgiveness and Religious Beliefs among Leukemia Patients

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ABSTRACT

Aims It has been shown that hope plays an important role to recovery process from illness and has strong psychological benefits for patients to cope more effectively with their disease. The purpose of this study was the prediction of hope based on forgiveness and religious beliefs among leukemia patients.

Materials & Methods This descriptive-correlational study was conducted on 205 volunteer leukemia patients who were admitted in Tehran hospitals in 2018. Patients were selected by convenience sampling method. The data were collected using The Centrality of Religiosity Scale (CRS), Adult Hope Scale (AHS), and The Heartland Forgiveness Scale (HFS). Date were analyzed by SPSS 23 software using Pearson correlation test and linear regression analysis.

Findings There was a positive significant correlation between forgiveness (r=0.552) and religious beliefs (r=0.182) with hope (p<0.01). Also 30.6% of variance of hope was explained by religious beliefs and forgiveness (p<0.01).

Conclusion Forgiveness and religious beliefs are predictor factors of hope in leukemia patients.

Keywords Hope; Forgiveness; Religious Beliefs; Leukemia

CITATION LINKS

[1] Hope theory: Rainbows in the mind [2] Why forgiveness may protect against depression: Hopelessness as an explanatory mechanism [3] The meaning of hope for patients coping with a terminal illness: a review of literature [4] Does hope really make a difference? Scientific findings [5] Hope in psychiatry: a review of the literature [6] Hopelessness and risk of mortality and incidence of myocardial infarction and cancer [7] More questions about forgiveness: research agenda for 2005-2015 [8] The kiss of the porcupines: From attributing responsibility to forgiving [9] Forgiveness and fundamentalism: Reconsidering the relationship between correctional attitudes and religion [10] Forgiveness as an intervention goal with incest survivors [11] Theoretical and empirical connections between forgiveness, mental health, and well-being [12] Granting forgiveness or harboring grudges: implications for emotion, physiology, and health [13] Til lack of forgiveness doth us part: forgiveness in marriage [14] Issues relating to the use of forgiveness in counselling and psychotherapy [15] Psychology of religion [16]The religion-health connection: evidence, theory, and future directions [17] Correlates of self-perceptions of spirituality in American adults [18] A prospective study of church attendance and health over the lifespan [19] Religion and health: Public health research and practices [20] Religiosity/spirituality and health [21] The psychology of religion [22] Body, mind and spirit: towards the integration of religiosity and spirituality in cancer quality of life research [23] Religious involvement and the forgiving personality [24] Psychometric and rationalization accounts of the religion-forgiveness discrepancy [25] Religion and unforgivable offenses [26] Process-based forgiveness interventions: a meta-analytic review [27] The centrality of religiosity scale (CRS) [28] The will and the ways: development and validation of an individual-differences measure of hope [29] Normative data for the Hope Scale using Australian adolescents [30] Dispositional forgiveness of self, others, and situations [31] The relevance of spirituality, religion and personal beliefs to health-related quality of life: Themes from focus groups in Britain [32] Inter-religious perspectives on hope and limits in cancer treatment [33] Seeking meaning and hope: self-reported spiritual and existential needs among an ethnically-diverse cancer patient population

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Introduction

Hope is defined as the perceived capability to derive pathways to desired goals, and motivate oneself via agency thinking to use those pathways. In other words, hope has three components: goals, pathways and agency. Goals are approaching life in a goal-oriented way, pathways are finding different ways to achieve your goals and agency is believing that you can instigate change and achieve these goals. Hope theory is compared to theories of learned optimism, optimism, self-efficacy, and self-esteem. Higher hope consistently is related to better outcomes in academics, athletics, physical health, psychological adjustment, and psychotherapy. Processes that lessen hope in children and adults are reviewed. Using the hope theory definition, no evidence is found for "false" hope. Future research is encouraged in regard to accurately enhancing hope in medical feedback and helping people to pursue those goals for which they are best suited[1]. In psychology, hope is an optimistic attitude of mind that is based on an expectation of positive outcomes related to events and circumstances in one's life or the world at large.

A role of hope, and more specifically, particularized hope, has been shown to be an important part of the recovery process from illness; it has strong psychological benefits for patients and helping them to cope more effectively with their disease[2]. Patients who maintain high levels of hope have an improved prognosis for life-threatening illness and an enhanced quality of life. Overall, studies have demonstrated that maintaining a sense of hope during a period of recovery from illness is beneficial. A sense of hopelessness during the recovery period has, in many instances, resulted in adverse health conditions for the patient (i.e. depression and anxiety following the recovery process)[3]. Additionally, having a greater amount of hope before and during cognitive therapy has led to decreased Post Traumatic Stress Disorder-related depression symptoms in war veterans[4]. Hope has also been found to be associated with more positive perceptions of subjective health. However, reviews of research literature have noted that the connections between hope and symptom severity in other mental health disorders are less clear, such as in cases of individuals with schizophrenia[5]. Found moderate hopelessness was associated with incident cancer. In other words, findings indicate that hopelessness is a strong predictor of adverse health outcomes, independent of depression and traditional risk factors[6].

Forgiveness is a process (or the result of a process) that involves a change in emotion and attitude regarding an offender. Most scholars view this an intentional and voluntary process, driven by a deliberate decision to forgive[7].This process results in decreased motivation to retaliate or maintain estrangement from an offender despite their actions, and requires letting go of negative emotions toward the offender. Theorists differ in the extent to which they believe forgiveness also implies replacing the negative emotions with positive attitudes including compassion and benevolence[8]. In any event, forgiveness occurs with the victim's full recognition that he or she deserved better treatment, one reason why Mahatma Gandhi contended that "the weak can never forgive. Forgiveness is an attribute of the strong"[9]. Results from experiments tracking the outcome of forgiveness interventions show that interventions lead to improved affects[10], lower rate of psychiatric illness[11], lower physiological stress responses; thereby improving physical well-being and leading to a greater sense of personal control[12], facilitate the restoration of relationship closeness[13], psychological healing through positive changes in affect[14] and improve physical and mental health[11].

Psychology of religion consists of the application of psychological methods and interpretive frameworks to religious traditions, as well as to both religious and irreligious individuals. It attempts to accurately describe the details, origins, and uses of religious beliefs and behaviors[15]. Some studies indicate that religiosity appears to positively correlate with physical health[16]. For instance, mortality rates are lower among people who frequently attend religious events and consider themselves both religious and spiritual[17]. One possibility is that religion provides physical health benefits indirectly. Church attendees present with lower rates of alcohol consumption and improvement in mood, which is associated with better physical health[18]. Kenneth Pargament is a major contributor to the theory of how individuals may use religion as a resource in coping with stress. His work seems to show the influence of attribution theory. Additional evidence suggests that this relationship between religion and physical health may be causal[19]. Religion may reduce likelihood of certain diseases. Studies suggest that it guards against cardiovascular disease by reducing blood pressure, and also improves immune system functioning[20]. Similar studies have been done investigating religious emotions and health. Although religious emotions, such as humility, forgiveness, and gratitude confer health benefits, it is unclear if religious people cultivate and experience those emotions more frequently than non-religious peoples[21].

Forgiveness is a concept with deep religious roots. It is also a basic social and psychological phenomenon. Un-forgiveness and forgiveness are distinct. One cannot forgive unless un-forgiveness has occurred, but one might reduce un-forgiveness by many ways—only one of which is forgiveness. The regular inclusion of religiosity and spirituality measures in quality of life studies is needed in order to understand the integration of mind, body and spirit

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in cancer care[22]. The investigation of spiritual/religious factors in health is clearly warranted and clinically relevant. This special section explores the persistent predictive relationship between religious variables and health, and its implications for future research[9] reveal that religion influences support for rehabilitation as well as punitiveness and practice.

Mullet *et al*. showed there are relationships between religious involvement and forgiveness and what made the difference in the willingness to forgive was mainly the social commitment to religion (attendance in church and the taking of vows), not mere personal beliefs[23]. The value of forgiveness is emphasized in many religions, but little is known about how members of distinct religious cultures differ in their views of forgiveness, therefore Tsang *et al*. found retributive and compassionate religious beliefs, and transgression-specific forgiveness[24]. We discuss future research directions addressing the religion-forgiveness discrepancy on psychometric and theoretical levels. Cohen *et al*. found that Jews would agree more than Protestants that certain offenses are unforgivable and that religious commitment would be more negatively correlated with belief in unforgivable offenses among Protestants than among Jews[25]. Lundahl *et al*.'s samples that received forgiveness interventions forgave more (effect size=0.82) and enjoyed increased positive affect and self-esteem and less negative affect[26]. Toussaint *et al*. found there are relationships between forgiveness and religious beliefs[2]. Hence, the purpose of this study was the prediction of hope based on forgiveness and religious beliefs among leukemia patients.

Materials and Methods

This descriptive-correlational study was conducted on all leukemia patients who were admitted in Tehran hospitals in 2018. So 205 volunteer leukemia patients were selected by convenience sampling method.

The data were collected using following tools:

The Centrality of Religiosity Scale (CRS): The Centrality of Religiosity Scale (CRS) is a measure of the centrality, importance or salience of religious meanings in personality that measures the general intensities of five theoretical defined core dimensions of religiosity. The dimensions of public practice, private practice, religious experience, ideology and the intellectual dimensions can together be considered as representative for the total of religious live. From a psychological perspective, the five core-dimensions can be seen as channels or modes in which personal religious constructs are shaped and activated. The activation of religious constructs in personality can be regarded as a valid measure of the degree of religiosity of an individual. The CRS thus derives from the five dimensional measures a combined measure of the centrality of religiosity which is suitable also for interreligious studies[27].

It is important to keep in mind that the construction of the CRS follows a probabilistic logic. This means, that in general individuals with higher scores on the CRS have a more central religious construct system. The validity of this measurement strategy was confirmed empirically. There are very high correlations between the CRS and self-reports of the salience of the religious identity, which are traditionally applied as one item scale for religiosity. They amount to 0.83 in a student's sample and 0.73 in the international Religion Monitor. Furthermore, there are also high correlations between CRS values and self-reports of the importance of religion for daily life, with coefficients of 0.78. In a student's sample and 0.67 in the international Religion Monitor[27]. An alternative way to validate the CRS consists in the test of differential predictions for categorical groups of respondents based on their CRS score. Huber distinguishes between the groups of the highly religious with a central position of the religious construct system in the individual, the religious with a subordinated position of the personal religious construct system and the non-Religious with hardly any religious construct system[27].

Adult Hope Scale (AHS): The AHS is a 12-item self-report inventory designed to access an individual's level of hope within a goal-setting framework. Four items reflect pathways (1, 4, 6, 8); four agency (2, 9, 10, 12), and four are distracters (3, 5, 7, 11). A total hope score is then achieved by summing the scores on the pathways and agency subscales. Scored on an 8-point Likert scale to indicate how well the statement describes an individual (definitely false, mostly false, somewhat false, slightly false, or slightly true, somewhat true, mostly true, definitely true), scores range from a low of 8 to a high of 64[28]. The AHS has good internal reliability (0.74–0.84) and test–retest correlations (0.82 over 10 weeks), with the internal reliability (Cronbach's alpha) of the scale in the current study being 0.79 (pathways), 0.67 (agency), and 0.83 (hope)[29].

The Heartland Forgiveness Scale (HFS): This scale developed by Thompson *et al*. is a self-report measure of dispositional forgiveness with 18 items. The scale consists of three subscales, each with six items: forgiveness of self (e.g., "Although I feel bad at first when I mess up, over time I can give myself some slack"), forgiveness of others (e.g., "I continue to punish a person who has done something that I think is wrong"), and forgiveness of situations (e.g., "When things go wrong for reasons that can't be controlled, I get stuck in negative thoughts about it"). In this measure, participants are asked to respond in such a way that it reflects how they would typically respond to transgressions by using a 7-point rating scale, with anchors 1: Almost always more false than true and 7: Almost always true of

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me. Higher scores on each subscale reflect higher forgiveness in each domain. The Total score is the sum of item ratings after Items 2, 4, 6, 7, 9, 11, 13, 15, and 17 are reverse scored. In assessing the psychometric characteristics, Thompson *et al*. reported internal consistency coefficients as 0.75 for forgiveness of self, 0.79 for forgiveness of others, 0.79 for forgiveness of situation and 0.87 for total scores; test-retest reliabilities were 0.72, 0.73, 0.77, and 0.83 respectively with a three-week test-retest interval[30].

Date were analyzed by SPSS 23 software using Pearson correlation test and linear regression analysis. It should be noted that at first the normality of the distribution of variables was evaluated by the Kolmogorov-Smirnov test.

Findings

The mean age of patients in the study was 28.3±6.8 years old. Patients included 150 female (73.2%) and 55 male (26.8%) and 104 people (50.7%) of them got married.

There was a positive significant correlation between the mean scores of religious beliefs, forgiveness, and hope ($p<0.01$; Table 1).

Table 1) The mean scores of research variables and the matrix of correlation coefficients between them

Variables	Mean±SD	1	2
1- Religious beliefs	81.78±13.85	1	
2- Forgiveness	43.89±5.16	0.195**	1
3- Hope	43.49±8.70	0.182**	0.552**

**p<0.01

30.6% of variance of hope was explained by religious beliefs and forgiveness (Table 2). Finally; the regression equation based on standardized regression coefficients were:

(Forgiveness) 0.533+6.239= Y (hope)

Table 2) Results of linear regression analysis for predicting hope through predictor variables

Predictors	B	β	T	P	Statistics
Constant number	6.239	-	1.271	0.205	F=43.906 R=0.553
Religious beliefs	0.049	0.079	1.308	0.192	R^2=0.306 R^2 Justified=0.299
Forgiveness	0.593	0.533	8.847	0.001	p=0.01

Discussion

The purpose of this study was the prediction of the amount of hope based on forgiveness and religious beliefs among leukemia patients. Results show there are positive and significant correlation between the amount of hope, forgiveness and religious beliefs among leukemia patients. In addition, linear regression analysis showed hope is explained by religious beliefs and forgiveness.

There were correlation between hope and religious beliefs (r=0.182); as O'connell *et al*. showed spiritual strength and meaning in life are related together[31]. Astrow *et al*. showed inter-religious perspectives (among Muslims, Christian and Jewish) can be affected on amount of hope among cancer patients[32].

There were correlation between forgiveness and religious beliefs (r=0.195); as Applegate *et al*. demonstrated religion influences support for rehabilitation[9]. Mullet *et al*. found there are relationships between religious involvement and forgiveness[23]. Some studies like Tsang *et al*. explained how religion might justify forgiveness[24].

There were correlation between forgiveness and hope (r=0.552); as Toussaint *et al*. stated that there are associations between forgiveness, hope/hopelessness and depression[11]. Lundahl *et al*. found forgiveness interventions help people who suffer from low self-esteem, haplessness and so on[26].

Linear regression analysis showed hope are explained by religious beliefs and forgiveness. In other words, 30.6% of variance of amount of hope are explained by religious beliefs and forgiveness. Spiritual beliefs and practices are believed to promote adjustment to cancer through their effect on existential concerns, including one's personal search for the meaning of life and death, and hope. In a study, Moadel *et al*. found cancer patients want spiritual helps with: overcoming my fears , finding hope, finding meaning in life, finding spiritual resources, or someone to talk to about: finding peace of mind, the meaning of life, and dying and death[33].

The most limitation of this study is that the present study applied on leukemia patients, not other cancer patients or other chronic patients. It was so difficult to find patients and in some cases they did not work with researcher. Another limitation is that in this study only three scales were used. In other word, three variables were studied in this research and only two variables were considered in related with hope, but some other factors can be contributed with hope among chronic patients.

It is suggested other studies similar to this study to be performed on other special groups as HIV patients, other cancer patients and so on and some factors and variables considered like resiliency, identity, metacognition strategies, etc.

Conclusion

Forgiveness and religious beliefs are predictor factors of hope in leukemia patients.

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