

## Predicting mental health based on religious coping strategies and self-efficacy in cancer patients undergoing chemotherapy

Gholami S., \*<sup>1</sup> Arani Shani S.<sup>2</sup>

### Abstract

**Introduction:** Cancer is one of the most common diseases that seriously threatens human life today, which causes psychological symptoms in addition to physical symptoms and threatens people's mental health. The present study was conducted with the aim of the prediction of mental health based on religious coping strategies and self-efficacy in cancer patients undergoing chemotherapy in 2019.

**Method:** The current research is applied in terms of purpose and analytical-correlation type. The statistical population of the research included all the patients suffering from all types of cancer who referred to chemotherapy centers in Shiraz in 2019, and 135 of them were selected by available sampling method. The research tools included Goldberg's General Health Questionnaire (1997), Pargament's Religious Coping Scale (2000), and Scherer's Self-Efficacy Scale (1982). In order to analyze the data, Pearson correlation coefficients and stepwise regression were used.

**Results:** Based on the results, the variables of religious coping strategy and self-efficacy were able to predict mental health changes in cancer patients undergoing chemotherapy. Also, among the components of the religious coping strategy, the negative religious coping strategy had the most negative effect on the patients' mental health.

**Conclusion:** Religious coping strategies and self-efficacy are effective in the mental health of cancer patients; therefore, it is suggested to improve these variables in these patients.

**Key words:** cancer, coping strategies, mental health, physical and psychological symptoms, self-efficacy

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<sup>1</sup> - Master of Clinical Psychology, Faculty of Educational Sciences and Psychology. Shiraz University, Shiraz, Iran, [farhad0874@gmail.com](mailto:farhad0874@gmail.com)

<sup>2</sup> - Master of Clinical Psychology, Shiraz University, Shiraz, Iran, [arani.2548@gmail.com](mailto:arani.2548@gmail.com)

## Introduction:

Cancer diagnosis is a very unpleasant and unbelievable experience for every person. Cancer causes the disruption of education, job, socio-economic status and family life, leading to the destruction of the patient's life. These effects include various aspects of the patient's quality of life, including mental, psychological, social, and economic conditions (1). In addition to causing physical problems for patients, cancer also causes numerous social and psychological problems for them, among which reactions such as denial, anger and guilt are observed in these patients (2).

Cancer is considered as a paralyzing and incurable disease in the society, and after its diagnosis, the person suffers from anxiety and depression caused by unrealistic fear of death and reduction of social energy, so that the necessity of frequent hospitalization and constant worries for the patients and their families make the person. It leads to mental disorders (3). Due to the complex nature of this disease, various methods have been used for its treatment, such as surgery, radio therapy, chemotherapy, gene therapy, and immunotherapy (4). Chemotherapy is known as one of the most common methods of treating this disease. But unfortunately, the previous findings of the researchers indicate that most of the chemotherapy drugs have side effects and toxicity that cause disruption in the function of healthy tissues (5). In order to prevent the spread of mental disorders, preventive measures must be identified and implemented. Since any intervention in the field of psychological issues requires a sufficient understanding of the human psyche and only God has complete knowledge of the human psyche, therefore religious rulings and orders derived from divine knowledge can provide general information about the human psyche and complete guidance. To maintain mental health (6).

Today, the role of religion and spiritual care in the prevention and treatment of mental health problems and mental disorders has received a lot of attention. Religion is an important aspect of people's lives and how they deal with life's problems (7).

Today, more than ever, there is a need to think about the influence of religious beliefs on all matters. Numerous studies show that religion and mental and even physical health have a direct relationship with each other, and the researchers' approach to religion and its psychological study has been increasing in recent decades. Has been (8).

Another effective factor in improving mental health is self-efficacy. Undoubtedly, many factors affect people's mental health, factors such as self-efficacy help people to cope with stressful situations (9).

Self-efficacy beliefs refer to self-regulatory processes. Self-efficacy beliefs reflect the conceptualization of knowledge structures that affect evaluation processes and, in turn, behavior (10).

Bandura has defined self-efficacy as a person's confidence in his ability to succeed in obtaining a desired result in a specific situation and defines it as determining the amount of effort and persistence and durability of people in dealing with obstacles and adverse experiences (11). According to Bandura, self-efficacy is a mental process that is formed during the evolutionary period of human development and includes identifying the goal, estimating the effort and abilities necessary to achieve those goals, and predicting the result. People with high self-efficacy believe in their abilities and persist to achieve their goals and do not give up (12).

According to the mentioned cases, self-efficacy and religious coping strategies are related to mental health, but so far no study has investigated the variables mentioned in cancer patients

undergoing chemotherapy due to the special situation of patients undergoing chemotherapy and the lack of studies. Previous in this field, the present study was conducted with the aim of investigating the prediction of mental health based on religious coping strategies and self-efficacy in cancer patients undergoing chemotherapy.

Babapour et al. (13) investigated the structural relationship between religious attitude and coping strategies with quality of life and mental fatigue in cancer patients. Based on their results, religious orientation is an effective coping method against diseases such as cancer due to the important effects it has on people's lives. And by improving the religious attitude of the patients, it is possible to improve the coping strategies and quality of life of the patients and reduce the feeling of fatigue in the patients.

In another study, Khizrloo colleagues (14) during research entitled "Effectiveness of Pain Self-Efficacy Model on the Quality of Life of Cancer Patients" came to the conclusion that the self-efficacy model improves the quality of life of cancer patients. In another study, Azimzadeh Tehrani et al. (15)

They stated that there is a positive and significant relationship between Islamic coping methods with disease adaptation and pain tolerance in breast cancer patients. Based on the results of Kersha et al. (16), self-efficacy improved mental health in advanced cancer patients and their caregivers. Based on the results of Herditenelli and Paramestri research (17)

Psychological stress can affect the quality of life in women with breast cancer. Religious coping moderates the relationship between psychological stress and quality of life in women with breast cancer. According to the results of Melsin et al. (18), religion and spirituality have a special role in the management of elderly patients with cancer, because the interest in the meaning of life and spiritual achievements increases with age. In general, religion and spirituality are associated with better tolerance of chronic diseases and more satisfactory care experience in patients with chronic diseases and their families.

The present study was conducted with the aim of predicting mental health based on religious coping strategies and self-efficacy in cancer patients undergoing chemotherapy in 2019.

### **Research method:**

The current research was applied and analytical-correlation type. The statistical population in this research included all patients with all types of cancer who referred to Shiraz chemotherapy centers for chemotherapy in 2013. According to previous researches, the studied sample included 135 members of the statistical community. Sampling method in this research, sampling was available, in such a way that the researcher referred to public and private oncology centers in Shiraz city for three months by introducing the clinical psychology department of Shiraz University and obtained their permission. selected the sample people and then implemented the desired questionnaires.

Goldberg General Health Questionnaire (1997). Goldberg et al.'s general health questionnaire (19) is a "Serandi questionnaire" based on the self-assessment method and includes 28 items, which include 4 subscales of physical symptoms (1-7), anxiety and insomnia (8-14), restlessness It evaluates social anxiety (15-21), severe depression (22-28). Goldberg et al. (19) reported a correlation coefficient of 0.54 and a reliability coefficient of 0.88 for this scale with

the Minnesota Multifaceted Questionnaire. Tagvi (20) reported the Cronbach's alpha coefficient for the whole scale in Iranian society as 0.90 and its validity as 0.55.

Pargament Religious Coping Scale (2000). Pargament's religious coping scale (21) includes 100 items that evaluate 17 subscales. The short version of 14 items taken from the original and long form specifies positive and negative coping styles. Each of the positive and negative scales includes 7 religious coping test items. Positive scales include evidence from 1 to 7 and negative scales include evidence from 8 to 14. Matiei et al. (22) reported the correlation of this tool with religious orientation scale equal to 0.6 as an index of convergent validity of the tool and Cronbach's alpha coefficients in the range of 0.65 to 0.86.

Scherer et al.'s self-efficacy scale (1982). The self-efficacy scale of Scherer et al. (23) includes 17 items that score self-efficacy on a Likert scale from 1=completely disagree to 5=completely agree, and a higher score in this tool indicates greater self-efficacy. Scherer et al. (1982) obtained Cronbach's alpha coefficient of 0.86 for the general self-efficacy scale. In Iran, Asgharanjad et al. (24) used the exploratory and confirmatory factor analysis method to investigate the validity, and the results of the exploratory factor analysis indicated the existence of three factors in this scale, and the results of the confirmatory factor analysis for testing the hypothesis indicated the existence of a single-factor model of the self-efficacy scale. Was. Cronbach's alpha coefficient statistical test was used to check the validity of Scherer's general self-efficacy scale, and the result was equal to 0.83.

In this research, to analyze the available data, descriptive statistics including the mean and standard deviation of the scores of the sample group were used in each of the scales, and also in the inferential statistics part, Pearson's correlation coefficient and step-by-step regression were used. SPSS24 was used.

#### findings

According to the research results, about 61.5% of the sample members were women and 38.5% of the sample members were men. The results of examining the education level of the patients showed. Out of a total of 138 male and female patients present in the study sample, 37 people have primary education degree, 23 people have bachelor's degree, 40 people have diploma, 27 people have postgraduate diploma and bachelor's degree and 8 people have master's degree and above. In general, it should be said that 27.4% of the sample people have primary education, 17% cycle, 29.6% diploma, 20% postgraduate and bachelor degree and 5.9% master degree and above.

Among them, 24 women have a primary education degree, 17 women have a bachelor's degree, 23 women have a diploma, 17 women have a master's degree and a bachelor's degree, and 2 women have a master's degree or higher. In men, 13, 6, 17, 10, and 6 people had primary, cycle, diploma, post-graduate, and bachelor's degrees, and post-baccalaureate degrees and above, respectively.

#### Results:

The results of the correlation between mental health and research variables. Based on the results of the relationship between self-efficacy and mental health of patients, there was a positive and significant relationship at the level of 1%. Also, there was a positive and significant relationship between the religious coping strategy and the mental health of the patients at the five percent level. Therefore, self-efficacy and religious coping strategy have a significant relationship with mental health.

**Table 1.** Correlation between mental health and research variables

Significance level	Pearson coefficient value	The correlation coefficient	The dependent variable	independent variable
0.001	0.360**	Pearson	mental health	Efficacy Religious
0.05	*0.189	Pearson	mental health	confrontation strategy

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To test this hypothesis, multiple regression analysis was used in the simultaneous method, in such a way that religious coping strategies were entered into the regression equation as predictor variables and mental health as a criterion variable. Table 2. Statistical indices of the regression model and Table 2. Regression coefficients for predicting mental health by the religious coping strategy variable.

**Table: 2.** Regression model and statistical indicators of religious coping strategy to predict mental health

Significance level	f	mean square	Degrees of freedom	sum of squares	Model
0.001	17/7	00/1303	5	02/6515	1

**Table 3-** Regression coefficients of religious coping components to predict mental health

Variable	Beta coefficient	T	Significance level	estimation error	R2	R
Fixed		3/22	0/002	47/13	21/0	46/0
religious practices	0/02	0/27	0/789			
Benevolent assessment	0/05	0/47	0/639			
Negative coping strategy	0/38	3/71	0/001			

Active coping strategy	-0/20	-1/83	0/068
Passive coping strategy	-0/10	-0/10	0/913

As the results of Table 3 show, a model has been presented in order to investigate the effect of the components of religious confrontation using the simultaneous regression analysis method. Among the religious coping strategies, the negative coping strategy is able to predict mental health at the level of 0.001, and the components of religious practices, benevolent evaluation, active coping, and passive coping did not have a significant effect in predicting the mental health of cancer patients undergoing chemotherapy. In total, 21% of mental health variance is explained by negative coping strategy, in other words, patients who use negative coping strategy have less mental health.

Predicting mental health based on self-efficacy in cancer patients undergoing chemotherapy To test this hypothesis, simultaneous regression analysis was used, so that self-efficacy as a predictor variable and mental health as a criterion variable were entered into the regression equation. Table 4. Statistical indices of regression model and Table 4. Regression coefficients for predicting mental health by self-efficacy variable.

**Table 4.** Regression model and statistical indices of self-efficacy to predict mental health

Model	Significance level	F	mean square	Degrees of freedom	sum of squares
Efficacy	0.001	81/19	73/3880	1	<b>73/3880</b>

**Table 4.** Regression coefficients of self-efficacy to predict mental health

Variable	estimation error	R <sup>2</sup>	R	Significance level	T	Beta coefficient
Fixed	13/99	0/13	0/36	0.001	8/67	
Efficacy				0.001	-4/45	<b>-0.36</b>

As the results in Table 11-4 show, self-efficacy is a significant predictor of mental health in cancer patients undergoing chemotherapy ( $P < 0.001$  and  $B = -0.36$ ). Also, these results show that about 13% of the variance of mental health is explained by self-efficacy. In other words, people who have higher self-efficacy have higher mental health.

**Discussion and conclusion:**

The present study was conducted to investigate the prediction of mental health based on marital satisfaction in cancer patients undergoing chemotherapy in 2019.

The results of examining and analyzing the data of the first hypothesis of the research show that among the religious coping strategies, only the negative religious coping strategy positively and meaningfully predicts the mental health of cancer patients undergoing chemotherapy, in the sense that the use of the religious coping strategy Negativity is associated with decreased mental health and religious practices, benevolent evaluation, active coping strategy and passive coping strategy have not had a significant effect in predicting the mental health of cancer patients undergoing chemotherapy. This finding is in line with the results of the researches of Babapour et al. The results of this survey are quite expected

Because as Pargament et al. (21) state, the negative religious coping strategy (turning away from religion) represents a less secure relationship with God, a pessimistic and uncertain view of the world, and religious militancy is a challenge to search for meaning and has negative consequences, such as depression, confusion. Emotional, physical health and low quality of life are associated with poor problem solving. On the other hand, a negative view of God is a kind of conflict and religious conflict that leads to a feeling of confusion and despair in relation to God and a feeling of anger towards him.

When people turn to God to solve their problem, they believe that their problem can be changed and this increases the possibility of controlling the situation. And there will be disappointment and the mental health of the person will decrease.

However, another part of the results related to religious practices, benevolent evaluation and active coping strategy and passive coping strategy, which can be generally considered in the form of positive religious coping strategy, has a significant role in predicting the mental health of cancer patients undergoing chemotherapy. did not have. People with internal religion are flexible and unbiased people who can control their automatic emotional responses and have higher control power in accordance with their spiritual growth. While affirming attention to positive emotions and emotions, religion has many orders about following reason and emphasizes wisdom (25).

It is obvious that positive religious coping moderates the traumatic effect of negative events and influences reconciliation with these events. When people use religious coping styles, they are able to find a new meaning and concept in their lives and experience better mental and psychological conditions despite experiencing very unfortunate disease conditions. Another point is that due to the severe damage caused by the disease, a person does not have enough power to control the adverse conditions around him, while by using religious coping styles, he can entrust his life's fate to the power of God and feel more in control over the environment. be However, the results of the research are contrary to the mentioned contents.

In explaining this finding, it can be stated that normal people, when faced with an unfortunate incident, especially their imminent death, experience extreme states of despair and psychological pressure, which affects the cognitive-behavioral system and coping style of the individual. People use emotional and negative coping systems. On the other hand, a religious person worships and praises God in crises and goes to religious places to get rid of mental pressure and receive a holy healing, which is due to the special conditions of cancer patients

undergoing chemotherapy and the severe physical complications of these patients. Also, mental rumination does not happen with death.

Of course, this condition cannot be temporary and will disappear after the improvement of the physical condition and pain relief of these patients.

The results from the examination and data analysis of the second hypothesis of the research show that the self-efficacy variable had a significant effect in predicting mental health in cancer patients undergoing chemotherapy. The results of this hypothesis are in line with the research findings of Kersha et al. (16). Self-efficacy is the ability in which behavioral, emotional, social and cognitive sub-skills must be organized and coordinated effectively for countless goals. Self-efficacy activates the affective, emotional and cognitive flows that influence the transfer of knowledge and abilities to skillful action (26).

Perceived self-efficacy is not a measure to measure the level of a person's skills in a field, but rather a person's belief in this field, what they can do with a set of skills and under different conditions; In other words, between the issue of what skills a person has and the issue of what he will do with these skills and under different conditions. It is different (27).

That is, a person may perform unsuccessfully despite having the necessary skills to perform an action and despite being good at how to perform that action, due to having weak self-efficacy beliefs. People with high self-efficacy have interest and internal motivation to work and desire to increase their efforts. In dealing with obstacles, they show more perseverance and act very effectively (28).

It seems that if cancer patients have high self-efficacy, it will be easier for them to bear the disease and then they will have better ability and feel less failure. It increases the compromise with the situation and reduces the feeling of tension, anxiety and depression. In a general summary, it can be said that the variables of religious coping strategy and self-efficacy are able to predict mental health changes in cancer patients undergoing chemotherapy, so the attention of treatment centers and families should try to strengthen the mentioned cases.

### **Research limitations**

Among the limitations of the current research, variables such as socio-economic status were not controlled due to saving time and money, which limits the generalization of the research findings. Therefore, it is suggested that variables such as socio-economic status are also controlled in future researches. In addition to these, the other and main limitation of this research was the use of only questionnaires, that is, the use of questionnaires from western countries in terms of the lack of questionnaires in accordance with Iranian culture. It is suggested that in future researches, questionnaires should be made according to the cultural and social contexts of Iran, and in addition to questionnaires, observation and clinical interview should be used to measure the variables of this research.

### **Application of research**

Religious coping strategies and self-efficacy are effective in the mental health of cancer patients; therefore, it is suggested to improve these variables in these patients.

### **Conflict of interest**

The author or authors declare that they have no conflict of interest related to the authorship or publication of this article.

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## Resources:

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